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See Also SAUNDERS ADVERTISEMENT on Page 3

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NICOTINIC ACID IN THE TREATMENT OF ATYPICAL PSYCHOTIC STATES

ASSOCIATED WITH MALNUTRITION

H. M. CLECKLEY, M.D.

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AND

L. E. GEESLIN, M.D.

AUGUSTA, GA.

There have been reports of excellent results from the treatment of pellagrous psychoses with nicotinic acid;[1] these have dealt with the more familiar mental symptoms occurring in frank or subclinical pellagra of the usual type. The present communication deals with observations made on nineteen individuals all presenting mental symptoms of somewhat similar pattern, none corresponding to the ordinary conception of pellagrous dementia. Hebetude grading into profound stupor was a feature so prominent that frontal lobe tumor was suspected in three patients, lethargic encephalitis in one and chronic subdural hematoma in a third. Delirium was present three times, agitated depression once, and one patient presented the signs of central neuritis. Signs of peripheral neuritis were not discovered, but five patients had marked deafness which disappeared under treatment; it was difficult to determine whether this transient deafness was due to failure of attention or to actual interference with the auditory mechanism.

The complete syndrome of pellagra was absent and no patient had a history of the disease. Glossitis, in the sense of abnormal redness of the tongue, with or without papillary atrophy and ulceration, was present in all but two of the group. Stomatitis occurred only once, dermatitis was not seen, two patients had mild nonspecific vaginitis and one had diarrhea which developed while under observation. The incidence of gastric anacidity was quite irregular; in many instances gastric contents could not be secured. Inadequate nutrition was evident from the history or the observations made in every case. There was no attempt at rigid control of the diet, feeding was a problem always, and the poor condition of the patients often made the use of a pellagra-producing diet unjustifiable. A few profoundly unconscious patients were of necessity maintained on parenterally administered dextrose and sodium chloride solutions during a part of the treatment period.

All patients were subjected to rather comprehensive clinical and laboratory examination, including a neurologic and psychiatric survey. All usual quantitative, chemical and serologic determinations were made on the blood and cerebrospinal fluid. Electrocardiograms were made soon after admission and often repeated. The excretion of ascorbic acid in the urine was followed in a number of instances.

A great majority of the group were elderly and had organic disease, which might have been considered an adequate cause for the mental symptoms. At least eleven had advanced arteriosclerosis complicated in one instance by cerebrospinal syphilis; one patient had clinical and serologic evidence of cerebrospinal syphilis without peripheral vascular disease, and two men were severely and chronically alcoholic. A control group presenting stupor of demonstrable organic origin was made up of patients with frank cerebral vascular accidents, brain tumor and bromide intoxication.

The use of nicotinic acid was at first quite empirical, the coincidence of stupor and glossitis in obviously malnourished patients suggesting the possibility of incomplete or "cerebral" pellagra as a contributing factor to their dilapidation. Usual methods for hydration and support were taken in every case. Three patients (1, 3 and 4) were given thiamin chloride intramuscularly and intrathecally and one patient (17) took adequate amounts of this vitamin by mouth. Nicotinic acid was administered after other forms of treatment failed to produce improvement; except in case 17 it was given intravenously as sodium nicotinate. Sodium nicotinate was prepared by neutralizing a saturated solution of nicotinic acid with sodium bicarbonate, phenolsulfonphthalein being used as the indicator; the solution was then diluted to a standard volume representing 0.5 mg. of nicotinic acid per cubic centimeter, sterilized in pyrex flasks and stored in a refrigerator until used. Dosage varied from 100 to 300 mg. daily, the treatment period from three to ten days. The usual peripheral vasodilatation occurred during injection of the solution, but no untoward reactions were observed.

Response to nicotinic acid was striking in the group under discussion. In four cases (3, 8, 12 and 15) the vitamin seemed to contribute greatly to improvement; in the rest, "cure" was dramatic. In the control group with demonstrable cause for stupor, no improvement was noted after administration of equal or larger amounts. The results of treatment made it evident that these patients presented a form of pellagra evidently common but seldom recognized, even in endemic areas where physicians are alert to the rather protean manifestations of the disease. We are quite certain

From the Departments of Psychiatry and Internal Medicine, University of Georgia School of Medicine and the University Hospital.

1. Matthews, R. S.: Pellagra and Nicotinic Acid, J. A. M. A. **111:** 1148 (Sept. 24) 1938. Spies, T. D.; Aring, C. D.; Gelperin, Julius, and Bean, W. B.: The Mental Symptoms of Pellagra, Am. J. M. Sc. **196:** 461 (Oct.) 1938. Sydenstricker, V. P.; Schmidt, H. L., Jr.; Fulton, M. C.; New, J. S., and Geeslin, L. E.: The Treatment of Pellagra with Nicotinic Acid, South. M. J. **31:** 1155 (Nov.) 1938. Spies, T. D.; Grant, J. M.; Stone, R. E., and McLester, J. B.: Recent Observations on the Treatment of 600 Pellagrins with Special Emphasis on the Use of Nicotinic Acid in Prophylaxis, ibid. **31:** 1231 (Dec.) 1938.

that the therapeutic test with nicotinic acid was life saving in practically all of the group and equally certain that many persons have been allowed to die because of a failure to recognize the cerebral symptoms of pellagra when other evidences of the disease are absent. Jolliffe [2] has recently reported a somewhat similar experience in patients with signs of central neuritis. We are fully in accord with his suggestion that cerebral manifestations may be the first evidence of severe or complete depletion of nicotinic acid.

While each patient in this series presented phenomena of unusual interest and possible importance, for the sake of brevity the important observations are tabulated and summaries of only six typical case histories presented.

Summary of Cases

No. and Name	Race, Sex, Age	Signs	Associated Diseases	Nicotinic Acid	Result*
1 H. J.	W, ♂, 27	Stupor, glossitis	Alcoholism	100 mg. daily 9/10-9/21, 1938	Well
2 G. M.	W, ♂, 49	Stupor, glossitis	Alcoholism, arteriosclerosis	100 mg. daily 9/26-9/28, 1938	Well
3 M. B.	W, ♀, 42	Stupor, glossitis?	Hysteria	100 mg. daily 9/13-9/22, 1938	Improved (stupor well)
4 A. M.	W, ♀, 57	Stupor, glossitis	Severe macrocytic anemia	100 mg. daily 9/30-10/3, 1938	Well
5 L. J.	W, ♂, 78	Stupor, glossitis†	Arteriosclerosis	100 mg. daily 10/11-10/16, 1938	Well
6 L. W.	C, ♀, 62	Stupor, glossitis	Arteriosclerosis, severe	100 mg. daily 10/9-10/12, 1938	Well
7 H. H.	W, ♂, 54	Stupor, glossitis	Arteriosclerosis, severe	100 mg. daily 10/19-10/26, 1938	Well
8 B. S.	W, ♂, 56	Stupor, glossitis	Arteriosclerosis	125 mg. daily 10/22-10/27, 1938	Improved
9 D. W.	W, ♀, 54	Stupor, glossitis	Arteriosclerosis, syphilis	150 mg. daily 10/17-10/21, 1938	Well
10 M. T.	C, ♀, 24	Stupor, glossitis	.....	100 mg. daily 11/2-11/4, 1938	Well
11 B. R.	W, ♀, 48	Stupor, glossitis,† vaginitis	.....	150 mg. daily 11/4-11/8, 100 mg. 11/9-11/11, 1938	Well
12 S. B.	W, ♀, 54	Stupor, glossitis	Involutional psychosis	150 mg. daily 11/5-11/8, 1938	Improved
13 C. J.	W, ♀, 56	Stupor, glossitis	Abscess of thigh	150 mg. 11/25, 300 mg. 11/26, 150 mg. 11/27, 1938	Well
14 M. L.	C, ♂, 48	Lethargy	Arteriosclerosis, syphilis	200 mg. daily 11/19-11/22, 1938	Well
15 S. H.	W, ♀, 75	Stupor, glossitis	Arteriosclerosis	100 mg. daily 1/2-1/9, 1939	Improved
16 D. B.	W, ♀, 38	Stupor, glossitis†	Syphilis	300 mg. daily 1/4-1/6, 1939	Well
17 R. W.	W, ♂, 78	Stupor, glossitis	Arteriosclerosis, cancer	200 mg. daily by mouth, 12/26, 1938-1/4, 1939	Well
18 V. R.	W, ♂, 58	Stupor	Arteriosclerosis	300 mg. daily 1/13-1/15, 1939	Well
19 J. D.	W, ♂, 54	Stupor, glossitis†	Arteriosclerosis, syphilis	300 mg. daily 1/14-1/17, 1939	Well

* "Well" indicates that stupor and glossitis were entirely cured, not that associated chronic diseases were influenced. "Improved" indicates that stupor and glossitis were cured but organic or functional mental changes of nonpellagrous origin persisted.
† Typical pellagrous glossitis.

CASE HISTORIES

CASE 1.—H. J., a white man aged 27, was admitted to the University Hospital Aug. 27, 1938, from the city jail, where he had been taken in an alcoholic stupor. There was a history of severe chronic alcoholism. On admission the patient was well developed and well nourished, stuporous and with no evidence of paralysis. Ophthalmoscopic examination showed normal fundi. The tongue was red, dry and rough. General physical examination was not significant. Neurologic examination showed absence of knee and ankle jerks and no abnormal reflexes were present; there was definite response to painful stimuli. All routine laboratory examinations were of no significance. The cerebrospinal fluid was under 90 mm. of water pressure, the Queckenstedt test was negative, the cell count and protein content were normal and reactions with colloid gold and mastic suspensions were negative. Intubation was done and a liquid high vitamin diet was instituted. Thiamin chloride was given intrathecally, 20 mg. August 27, August 31 and September 4. The usual treatment for cerebral edema was carried out but no improvement resulted. For fourteen days the man lay in deep stupor; September 10, nicotinic acid was given, 100 mg. intravenously as sodium nicotinate; during the afternoon some four hours after treatment the man regained consciousness and spoke rationally. Treatment was continued for ten days; on the second day solid food was requested and on the fourth the patient was up and walked about the ward. Neurologic examination on the day when consciousness returned showed no evidence of peripheral neuritis. September 12 the fasting contents of the stomach showed 38 degrees of free hydrochloric acid and 47 degrees of total acidity. The man was discharged well September 26.

CASE 4.—A. M., a white woman aged 57, was admitted to the University Hospital Sept. 20, 1938. A history obtained from the relatives told of progressive difficulty in walking and almost constant headache for the past two years; during the past three weeks the patient had become almost completely ataxic and entirely lethargic. She was well nourished and well developed, apparently stuporous but could be aroused by drastic stimulation. The temperature was 98, the pulse 88, the respiratory rate 22 and the blood pressure 120 systolic, 80 diastolic. The skin was dry, a lemon yellow and free from blemishes. The tongue was liver colored with complete atrophy of the papillae. There were systolic murmurs at the mitral and aortic areas of the moderately enlarged heart. The peripheral arteries were large, firm and tortuous. The liver and spleen were not felt. The uterus and adnexa were senile. Neurologic examination after some difficulty showed a broad-based gait with staggering while supported. Romberg's sign was present and the finger to finger and heel to shin tests showed marked ataxia. Knee jerks were hyperactive but no abnormal reflexes were present. The pupils were irregular and responded quite sluggishly to light. After mydriasis, only pallor of the retina and retinal arteriosclerosis were evident. On psychiatric examination the patient was stuporous and entirely unable to cooperate. The blood contained 11 Gm. of hemoglobin per hundred cubic centimeters, 2,500,000 red blood cells and 7,800 white blood cells per cubic millimeter, with 160,000 platelets per cubic millimeter and 0.5 per cent reticulocytes. The color index was 1.2, the volume index, 1.2. The gastric contents after histamine September 22 showed 0 free hydrochloric acid and 12 degrees of total acidity. The cerebrospinal fluid was normal. The urine and stools contained an excess of urobilin. Blood smears showed anisocytosis, poikilocytosis and macrocytosis. Nucleated erythrocytes were not seen, platelets were abundant and no abnormal leukocytes were noted.

The diagnosis of addisonian anemia was made and concentrated liver extract-Lilly was given, 15 cc. intramuscularly as a depot dose September 23, following by 3 cc. daily for five days. Thiamin chloride 10 mg. was given intrathecally September 22 and 10 mg. intramuscularly was administered from September 23 to October 3; 400 cc. of blood was transfused September 24. No reticulocyte response followed the use of liver extract; daily counts varied between 0.3 and 0.6 per cent, nor was there any clinical improvement.

September 30 nicotinic acid (as sodium nicotinate) 100 mg. was given intravenously and continued until October 4. On October 1 the patient was conscious and cooperative and ate ravenously of the regular ward diet. On the following day she was alert and entirely rational. October 5, oral administration of nicotinic acid was substituted for intravenous treatment and 300 mg. was given each day in doses of 50 mg. every two hours from 8 a. m. to 6 p. m. Ferrous gluconate was prescribed, 5 grains (0.32 Gm.) three times a day. Clinical improvement was rapid. October 14 the patient was able to be up and around the ward. By October 18 all neurologic signs had disappeared; the patient was rational and

2. Jolliffe, N. H.: Effects of Vitamins on Mental and Emotional Processes, read before the Association for Research in Nervous and Mental Diseases, New York, Dec. 27, 1938.

in good spirits. The blood contained 12.5 Gm. of hemoglobin per hundred cubic centimeters, 4,200,000 red blood cells and 9,500 white blood cells per cubic millimeter. Volume and color indexes were 1. No reticulocytosis was observed; the maximum count was 0.8 per cent. The patient was discharged October 19 apparently well.

CASE 5.—L. J., a white man aged 78, was admitted to the University Hospital Sept. 30, 1938. A history obtained from the relatives told of increasing weakness and lethargy over a period of several weeks; eight days before admission the patient became bedfast and stuporous. He was fairly well nourished, stuporous and mildly delirious. The temperature was 99.2 F., the pulse 80, the respiratory rate 20 and the blood pressure 186 systolic, 110 diastolic. The skin was dry and wrinkled, the retinal arteries were sclerotic and the tongue was dry, bright red and atrophic. There was evidence of pulmonary congestion; the heart was moderately enlarged. There was advanced peripheral arteriosclerosis. Laboratory examinations showed moderate hypochromic anemia, normal renal function and electrocardiographic evidence of coronary sclerosis. The gastric contents could not be obtained. A liquid high vitamin diet, concentrated solutions of dextrose given intravenously and full doses of digitalis had no effect on the patient's condition. October 11 nicotinic acid was given, 100 mg. intravenously as sodium nicotinate, and repeated daily until October 16. On the second day of treatment the patient was alert and attentive and the tongue was pink and showed many small papillae. By October 14 the sensorium was entirely clear and the tongue normal. The patient was dismissed well October 19 and remained apparently well until Jan. 20, 1939, when he died suddenly from massive cerebral hemorrhage.

CASE 10.—M. T., a Negro woman aged 24, admitted to the University Hospital Oct. 27, 1938, had been seen many times in the outpatient department during the previous eight months complaining of headache and general malaise. In March 1938 she showed marked lethargy and March 31 a lumbar puncture yielded normal cerebrospinal fluid. During October consciousness became so clouded that she could not keep her eyes open or answer questions during an interview. There were no signs of an active psychosis.

On admission she was well developed and fairly well nourished, uncooperative and apparently stuporous. The temperature was 99 F., the pulse 80, the respiratory rate 18 and the blood pressure 132 systolic, 96 diastolic. The skin was normal. The left pupil was slightly larger than the right; both reacted normally to light and in accommodation. Ophthalmoscopic examination showed normal fundi. The tongue was red with smooth tip and edges; there was no stomatitis. No abnormalities were discovered on examination of the thorax, abdomen and genitalia. The knee and ankle jerks seemed slightly increased on the right. The patient lay with her eyes closed, entirely inert; she could be roused but consciousness was much clouded and she did not ever speak spontaneously. On being persistently roused she seemed oriented but failed to answer questions adequately, and it was impossible to hold her attention. Delusions and hallucinations seemed to be absent. The blood showed moderate hypochromic anemia; chemical determinations of the blood were negative and the Wassermann and Kahn reactions were negative. The urine showed nothing unusual. The gastric contents after administration of histamine contained 0 free hydrochloric acid and 14 degrees of total acidity. The cerebrospinal fluid was again normal in all respects. An electrocardiogram showed evidence of slight myocardial damage.

Because of persistent hebetude, frontal lobe tumor was strongly suspected; the possibility of chronic subdural hematoma was also considered. No nutritional history was obtainable but it was decided to try the effect of nicotinic acid, since there was mild glossitis and achlorhydria. Nicotinic acid 100 mg. was given intravenously as sodium nicotinate November 2, 3 and 4. About five hours after administration of the first dose there was a very definite change; the patient was fairly alert and answered questions quite satisfactorily. The following day she was more normal than she had been since she came under observation, responding promptly and rationally and showing keen interest in her surroundings. She remained clear mentally throughout the remainder of her stay in the hospital, talking freely, observant of all details and showing active and appropriate affective reactions. An encephalogram November 6 showed slight atrophy of both frontal lobes. The gastric contents obtained after administration of histamine November 10 contained 18 degrees of free hydrochloric acid and 35 degrees of total acidity. She was dismissed, apparently well, November 14.

CASE 11.—B. R., a white woman aged 46, was admitted to the University Hospital Nov. 2, 1938, with a tentative diagnosis of carcinoma of the uterus. There was a history of a foul vaginal discharge for some months, with progressive loss of appetite. During ten days preceding admission she had become progressively more weak and irrational, then stuporous and incontinent. She was small, emaciated, immobile and unconscious. The temperature was 100.2 F., the pulse rate 82, the respiratory rate 22 and the blood pressure 100 systolic, 30 diastolic. The skin was loose and dry; there was no dermatitis. The pupils were large and equal and they reacted to light; ophthalmoscopic examination showed normal fundi. The patient was edentulous, the tongue was red and smooth and there was no stomatitis. The lungs, heart and abdomen seemed normal. There was mild vaginitis with a profuse purulent discharge; the uterus and adnexa were normal. All tendon reflexes were much exaggerated with sustained ankle and patellar clonus and Chaddock's sign. The rectal and vesical sphincters were incontinent. There was no response to questions; strong painful stimuli were evidently felt but failed to rouse the patient. There were frequent sucking movements of the lips and cheeks and from time to time spontaneous grasping movements of the hands. There was slight hypochromic anemia; chemical and serologic examinations of the blood were negative. The urine showed moderate amounts of acetone. The gastric contents after administration of histamine contained 0 free hydrochloric acid and 14 degrees of total acidity. The cerebrospinal fluid was normal in all respects. X-ray examination of the thorax and of the gastrointestinal tract was negative.

An indwelling tube was installed for the administration of fluids and liquid diet. Psychiatric and neurosurgical consultants suggested central neuritis and frontal or hypothalamic tumor as possible explanations of the patient's condition. Because of mild glossitis and vaginitis with stupor, it was decided to give nicotinic acid. Amounts of sodium nicotinate solution equivalent to 150 mg. of nicotinic acid were given intravenously November 4 to 8 and then reduced to amounts representing 100 mg. until November 12. Some six hours after the first dose of sodium nicotinate the patient was definitely more responsive and the sensorium, while still clouded, was remarkably clearer. On the second day of treatment the patient was fairly cooperative, noticed the examiner, protruded the tongue on request and answered questions; on this day the indwelling tube was removed and a soft diet was taken. Sucking and grasping movements were less frequent and spasticity was less marked. On the following day she was alert and answered questions rationally. The sphincters were under control and primitive motor phenomena had ceased; all reflexes were normal. On this day the tongue was normal and there was no vaginal discharge. Subsequent improvement was rapid and the patient was dismissed, apparently normal, November 23.

CASE 18.—V. R., a white man aged 58, was admitted to the University Hospital Jan. 13, 1939. There was a history of gradually developing weakness and of aching of the feet with stumbling at night; a sensation of thoracic compression and increasing drowsiness had been present for about four months. He was emaciated, inert and entirely inattentive and looked much older than his stated age. The temperature was 98.6 F., the pulse 90, the respiratory rate 18 and the blood pressure 140 systolic, 80 diastolic. The skin was loose and dry and free from eruption. The pupils were irregular and reacted sluggishly to light and in accommodation. The optic disks were abnormally well defined and gray; the retinal arteries were tortuous and irregular. The tongue was rough and coated, with moderately red tip and edges. The lungs and heart were

not remarkable. The abdomen was scaphoid and the walls were soft. Reflexes were sluggish but no abnormal reflexes were found. There was great difficulty in holding the patient's attention when he was roused; the speech was slurred and there was marked apparent impairment of hearing. No sensory disturbances were found; the gait was slightly ataxic. The blood was normal in all respects, as was the urine. The cerebrospinal fluid showed no abnormalities.

Because the patient was lethargic and evidently poorly nourished it was decided to try the effect of nicotinic acid, though none of the usual signs of pellagra were present; 150 mg. was given intravenously on the evening of January 13 and 300 mg. January 14 and 15. On the morning of January 14 the patient was alert and cooperative, attention was readily gained and held and hearing seemed greatly improved. By the following day all mental clouding had disappeared, as had the speech defect and slight incoordination of the legs. He stated that he felt entirely well, and he was dismissed January 16 with no persisting symptoms.

COMMENT

The results obtained with nicotinic acid in this group of patients would seem to leave no doubt that the stupor, which was the presenting sign in every case, was due to specific deficiency of vitamin. No improvement followed the administration of nicotinic acid to patients with bromide intoxication, brain tumor or recent cerebral hemorrhage or thrombosis. It is to be emphasized that stupor was the single phenomenon common to the group. Glossitis was typical of pellagra in not more than four instances; two patients had rough coated tongues and the other thirteen had tongues which were dry and abnormally red but with abundant papillae, a type commonly referred to as "toxic" or "dehydrated." Gastrointestinal symptoms were absent and no patient showed dermatitis of any sort. The high proportion of elderly patients with advanced arteriosclerosis is significant in that such persons are apt to be without means of livelihood and severely undernourished as a result of neglect by relatives or of their own indifference. In our experience such patients have fallen into a high mortality group usually inadequately diagnosed "cerebral arteriosclerosis" or "cerebromalacia," hospitalized as a gesture and perfunctorily treated until death from bronchopneumonia. It is not to be supposed that we suggest that all stuporous conditions of obscure etiology are manifestations of pellagra. We have, however, been impressed by the dramatic improvement obtained in this series of cases and we are convinced that a therapeutic test with nicotinic acid is justifiable in cases of unexplained hebetude or unconsciousness.

Apparent deafness was a striking feature of five of our cases (2, 13, 14, 18 and 19). It was very difficult to evaluate the improvement in hearing which followed treatment with nicotinic acid. Unquestionably the threshold of auditory perception was raised during the period of stupor, but in two cases (13 and 14) there was a progressive increase in auditory acuity after hebetude had disappeared.

SUMMARY AND CONCLUSIONS

Nineteen stuporous patients showed remarkable improvement after treatment with nicotinic acid.

The usual criteria for the clinical diagnosis of pellagra were largely absent; four patients had the pellagrous type of glossitis and two had vaginitis; dermatitis and diarrhea were not present on admission in any case.

A great majority of the group were elderly with advanced arteriosclerosis and presented a clinical picture commonly attributed to arteriosclerotic encephalopathy.

Hebetude grading into profound stupor may be the only sign of severe acute pellagra, and therapeutic trial of nicotinic acid is justifiable as the only method at present available for the accurate diagnosis of such cases.

It is our present conviction that nicotinic acid was life saving in all but one or two of the cases under discussion.

BORDERLINE STATES OF NUTRITIVE FAILURE

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Nutrition now occupies the center of the stage. Formerly she played only a minor, somewhat unattractive, role and her lines were few, but today she enjoys a leading part and has the spotlight. Still greater brilliance of performance is promised. This advancement began about a quarter of a century ago when man's imagination was fired and his zeal for scientific inquiry kindled by the discovery that certain hitherto unknown substances, later called vitamins, although required only in minute amounts, are absolutely essential to the orderly progress of an animal's life processes. Without these substances the young fail to grow and the older animal sickens. It is of this sickness, in its many forms, that I wish to speak.

Three facts concerning nutritive failure are becoming increasingly obvious: first, that it does not come solely from lack of vitamins but from deficiency of proteins and minerals as well; in certain of the lower animals it comes even from lack of fats; second, that in America it is seldom complete; and third, that it is not, as a rule, the expression of a single nutritive fault. More often it is partial in extent and multiple in nature with a clinical picture that is correspondingly lacking in detail and hazy in outline.

Important too is the growing realization that nutritional failure is not the result solely of failure of supply, for it is frequently encountered in persons whose food supply is fully adequate. True, many of these patients simply do not eat the food offered them but there are others who, even though they consume adequate food of the right kind, suffer nonetheless from nutritive failure. Theirs is not a problem of the choice of food but of its digestion, absorption and utilization.

The first problem of this character was solved when Castle demonstrated that one of the most common of deficiency diseases, pernicious anemia, is due to a defect of the stomach. Then came reports telling of syndromes of similar character resulting from carcinoma of the stomach, gastrectomy, intestinal anastomosis and partial intestinal obstruction. Even rapid emptying of the stomach or long continued diarrhea may so interfere with digestion and absorption as to lead to nutritive failure. Witness the macrocytic anemia of sprue, due directly in all probability to poor absorption of the extrinsic factor of Castle and more remotely to the alterations in muscle tone and mucosal pattern characteristic of this disease.[1] Even nutritive deficiency

The DaCosta Foundation Oration, read before the Philadelphia County Medical Society, Philadelphia, March 15, 1939.

1. Mackie, T. T.; Miller, D. K., and Rhoads, C. P.: Sprue: Roentgenologic Changes in the Small Intestine, Am. J. Trop. Med. 15: 571-589 (Sept.) 1935.

itself, as Miller and Rhoads [2] have shown for the vitamin B complex, may so impair the integrity of the alimentary tract as to interfere with the absorption of other essential substances and thus lead to additional deficiencies of still other types. The same is true of peptic ulcer and chronic ulcerative colitis, which are sometimes attributed to nutritive failure but which are themselves, in all probability, the cause of the deficiencies noted. Apparently anything which seriously impairs the integrity of the gastrointestinal tract may so interfere with digestion and absorption as to lead to nutritive failure.

Such interference, however, is not limited to structural anomalies. Like difficulties are created by abnormalities of the digestive fluids, as can be seen most often in the deficiency states associated with achlorhydria. Just what role this defect plays it is difficult to say, but it is apparently of significance in a number of disorders other than pernicious anemia, notably pellagra and sprue. Even in the hypochromic anemias it plays a part, for in the absence of free hydrochloric acid from the stomach contents iron is not converted from the ferric to the ferrous state and therefore is not readily available for use. Similar hindrances are imposed by the absence of bile from the intestinal tract, for in this condition carotene, the precursor of vitamin A, and perhaps vitamin D also, fail of absorption and there results a deficiency of these elements.

Still other factors are capable of causing deficiency diseases in the face of an adequate food supply. Vitamin A and iron, for example, are both poorly utilized in the presence of an infection. In the case of the latter this was well illustrated by Whipple [3] when he told of the dog which ceased to build hemoglobin properly from injected iron when a focus of infection developed but which, as soon as the focus was removed, again produced hemoglobin in expected amounts. Additional evidence of this character is seen in the report of Kellogg and Mettier [4] that iron is poorly utilized when, as in peptic ulcer, alkalis are given.

Another potent cause of nutritive deficiency, hitherto unrecognized, is the ease with which the balance between vitamin requirement and energy output is upset, for the former is as a rule dependent on the latter, profoundly so in the case of vitamin B_1. If, for example, as was pointed out by Cowgill [5] and more recently emphasized by Williams and Spies,[6] a person consumes increased quantities of carbohydrate or alcohol; if, because of hyperthyroidism, fever or additional exercise, he increases appreciably his metabolism or, in the case of a woman, if she becomes pregnant, the requirement for vitamin B_1 is greatly increased. If the diet in this respect has hitherto been a borderline one, nutritive deficiency results and characteristic symptoms may develop.

Similar results may follow disturbances of intermediary metabolism, notably those which accompany disorders of the liver. Many substances are stored in the liver and when it is diseased the body may be deprived of reserves of essential nutritive elements on which it is accustomed to rely. If this organ is cirrhotic, for example, not only is the storage of vitamin A interfered with but the conversion of carotene into the vitamin is retarded. In addition, poor utilization of vitamin D [7] and inadequate production of plasma proteins are also experienced. The low levels of ascorbic (cevitamic) acid reported in the blood during rheumatoid arthritis and the assumed increase in requirement are also apparently due to disturbance of intermediary metabolism. It can safely be said, therefore, that the requirement of the body for vitamins and other nutritive essentials is governed by many factors, prominent among which are the condition of the gastrointestinal tract and the functional integrity of the liver.

No discussion of diet today would be complete without some mention of the distinction which is becoming increasingly obvious between minimum and optimum. As applied to nutrition the two words are by no means synonymous. Witness the report of Sherman and Ellis [8] concerning vitamin G and of Batchelder [9] concerning vitamin A showing in each group of experiments that the animal's improvement in vigor and nutritive well-being paralleled closely successive additions of the vitamin to the diet until an amount of this substance was administered which was several times that necessary to prevent evidences of nutritive deficiency. Like experience in the feeding of vitamin B to children was reported by Knott.[10] Since the body is apparently unable to build adequate reserves of this vitamin, she assumed that the highest retention represented the optimum intake and found that this point was reached only when six or seven times the minimum requirement was given. Such studies lead to the conclusion not only that optimum in this relationship is distinct from minimum but that it is to be distinguished even from adequate.

Subclinical states of nutritive failure hold greater interest for the average physician than do the outspoken deficiency diseases, both because they are more frequent and because without creating recognizable illness they often destroy the patient's efficiency, impair his sense of well-being and constitute a potent source of poor health. The recognition of these states, however, is not easy because there is no yardstick by which nutritive status can accurately be measured. The effort is being made to perfect methods of precision which will serve this purpose, but except for the determination of the ascorbic acid of the blood and possibly the capacity of the eye for dark adaptation, none of these are suitable yet for general use. The physician must rely on painstaking clinical observation and a recognition of those conditions under which nutritive deficiency is most apt to occur. The symptoms, which are well represented in a group of patients of whom I shall speak presently, are as a rule rather vague and elusive. Significant symptoms always are sore tongue and tendency toward diarrhea, but when these appear the disease can hardly be classed as subclinical. Careful questioning will often reveal faulty dietary habits,

2. Miller, D. K., and Rhoads, C. P.: The Experimental Production of Loss of Hematopoietic Elements of the Gastric Secretion and of the Liver in Swine with Achlorhydria and Anemia, J. Clin. Investigation **14**: 153-172 (March) 1935.

3. Whipple: Personal communication to the author.

4. Kellogg, Frederick, and Mettier, S. R.: Effect of Alkaline Therapy for Peptic Ulcer on Utilization of Dietary Iron in the Regeneration of Hemoglobin, Arch. Int. Med. **58**: 278 (Aug.) 1936.

5. Cowgill, G. R.: The Physiology of Vitamin B_1, J. A. M. A. **110**: 805-812 (March 12) 1938.

6. Williams, R. R., and Spies, T. D.: Vitamin B_1 and Its Use in Medicine, New York, Macmillan Company, 1938.

7. Heymann, Walter: Importance of the Liver for the Antirachitic Efficacy of Vitamin D, Proc. Soc. Exper. Biol. & Med. **36**: 812-814 (June) 1937.

8. Sherman, H. C., and Ellis, L. N.: Necessary Versus Optimal Intake of Vitamin G, J. Biol. Chem. **104**: 91 (Jan.) 1934.

9. Batchelder, E. L.: Nutritional Significance of Vitamin A Throughout the Life Cycle, Am. J. Physiol. **109**: 430 (Sept.) 1934.

10. Knott, Elizabeth M.: A Quantitative Study of the Utilization and Retention of Vitamin B by Young Children, J. Nutrition **12**: 597 (Dec.) 1936.

extreme faddism, substandard conditions of living, a long continued illness or operation perhaps, or some other circumstance which has influenced the state of the patient's nutrition. Recognition is often made more difficult by the multiple nature of the deficiency. Even such a clearcut disease as pernicious anemia is frequently complicated by contributory deficiencies. As was well expressed by Minot,[11] it is often of more practical importance to recognize that the patient has nutritional deficiency than to be able to name exactly what nutritional deficiencies he has.

The physician who attempts to describe nutritional failure should confine himself to the disorders seen within his own area of activity, for climate, soil, food supply, racial customs, economic considerations, are all of profound influence. I can speak, therefore, only of my own observations in the Gulf states, but these, I believe, will permit of a fair amount of generalization. My interest in nutrition was aroused many years ago by experience with a group of patients who are ordinarily shunned by most physicians. These patients, while presenting a great variety of symptoms, have in common easy fatigue, both mental and physical, anemia of varying degree, digestive disorders of every type and of all grades of severity, aches and pains that are not necessarily constant in time or location, a lowered basal metabolic rate perhaps, dryness and other minor disturbances of the skin, and an emotional instability that physicians are accustomed to associate with neurasthenia. But neurasthenia is a poor diagnosis always, and for this group in particular it is a highly unsatisfactory one. It seemed best at that time to make no diagnosis, and for a number of years with a large measure of success these patients were treated without a diagnosis.

Today, after watching the response of the patient of this type to a more liberal diet, I now feel convinced that his troubles are due largely to nutritive deficiency. The vague pains of which he so often complains are not the expression merely of heightened emotionalism; too often they are reminiscent of the symptoms described by Brennan[12] in the latent beriberi seen in the Philippines. The same is true of his easy fatigue, palpitation and insomnia. Likewise, I think it fair to assume that his vague digestive disorders, even though they depend on functional derangement rather than on structural damage, are none the less genuine. When one recalls the description by Cowgill and Gilman[13] of the depression of gastric secretory activity produced by lack of the vitamin B complex, and that of Shimazono[14] of the altered intestinal motility which accompanies the same deficiency, it is not difficult to recognize the true nature of these disabilities.

The patients of whom I speak have been put to bed in the hospital, reassured, given a pat on the back, and forced to eat a liberal, well balanced diet, a type of diet to which, as a rule, they were utterly unaccustomed and against which they sometimes rebelled. In the majority of instances the improvement has been thoroughly satisfactory. The aches and pains have disappeared, foods were eaten that formerly were regarded with great fear, emotional stability has been established, and the patient has not infrequently blossomed out like a rose. He was cured, at least for the time being, but of what he was cured I formerly had many doubts. Now I believe I know. It was not, as was at first thought, the seclusion, the opportunity for quiet contemplation, the reassurance, the atmosphere of encouragement or the pat on the back that accomplished the cure. It was food.

High in the list of such disorders should be placed the so-called prepellagrous state. Since J. B. McLester in his study of the histories of pellagrins seen at the Hillman Hospital in Birmingham made the significant discovery that an appreciable number of these patients had been admitted the previous year under the diagnosis of neurasthenia, we have made an effort toward the early recognition of such cases of subclinical pellagra. Many of the patients recently studied could with some justice be called neurasthenic, but when given nicotinic acid and thiamin, with a diet appropriate for pellagra, they recovered their nervous stability and sense of well-being to a remarkable degree. I believe that with a good history the prepellagrous state can be recognized without great difficulty and further progress of the disease stopped.

Among the discoveries made by Spies and his associates in these pellagra studies two are deserving of mention here. First, abundant confirmation was found of the belief which I expressed a few years ago[14a] that the deficiency responsible for the manifestations of this disease is as a rule multiple in nature. Nicotinic acid will relieve in a graphic manner the psychic and the gastrointestinal symptoms of pellagra, but experience has shown that vitamin B_1 is required for relief of the neuritis. Second, it was demonstrated early in this work that a diet fully adequate to protect against pellagra will not necessarily arrest the disease once it is started; the same nutritive substances are required but in greatly increased amounts. The conclusions drawn from these observations apply, experience has led me to believe, not only to pellagra but also to many other deficiency states, borderline and outspoken.

The minor disorders that appear in the twilight zone of nutritive failure are many and varied. In this group can be placed the normocytic anemia, with a slightly macrocytic tendency, ascribed by Minot[15] to lack of vitamin C and the iron deficiency anemia seen among many young women. This last, although mild, is apparently identical with the chlorosis frequently described forty years ago. In the same category belong the dermatoses of minor extent described by Youmans and Corlette[16] and others and the peculiar dystrophy of the nails reported by White. In the first group improvement was effected by the administration of vitamin A and in the second by vitamins A, B and D. I am not familiar with the beriberi heart described by Weiss and Wilkins,[17] but I believe that other disorders which accompany low grade vitamin B_1 deficiency, difficult of accurate appraisal, are

11. Minot, G. R.: Nutritional Deficiency, Ann. Int. Med. **12**: 429 (Oct.) 1938.

12. Brennan, T. J.: The Early Diagnosis of Beriberi, Nutrition Abstr. & Rev. **2**: 841 (April) 1933.

13. Cowgill, G. R., and Gilman, Alfred: Physiology of Vitamins: XXIII. The Effect of Lack of the Vitamin B Complex on the Secretion of Gastric Juice in Dogs with Gastric Pouches, Arch. Int. Med. **53**: 58 (Jan.) 1934.

14. Shimazono, J., quoted by Cowgill, G. R.: The Vitamin B Requirements of Man, Yale University Press, 1934.

14a. McLester, James S.: The Nature of Pellagra: A Critique, Ann. Int. Med. **8**: 475 (Oct.) 1934.

15. Minot, G. R.: The Anemias of Nutritional Deficiency, J. A. M. A. **105**: 1176 (Oct. 12) 1935.

16. Youmans, J. B., and Corlette, M. B.: Specific Dermatoses Due to Vitamin A Deficiency, Am. J. M. Sc. **195**: 644 (May) 1938.

17. Weiss, Soma, and Wilkins, R. W.: The Nature of the Cardiovascular Disturbances in Nutritional Deficiency States (Beriberi), Ann. Int. Med. **11**: 140 (July) 1937; Disturbances of the Cardiovascular System in Nutritional Deficiency, J. A. M. A. **109**: 786 (Sept.) 1937.

of relative frequency. Among these should be included many so-called functional digestive disorders with anorexia and loss of gastrointestinal muscle tone, and many forms of neuritis, both single and multiple. Witness the neuritis of pregnancy which Strauss and McDonald [18] successfully treated with abundant diets rich in vitamin B_1, and the neuritis of diabetes mellitus, which Williams and Spies [6] believe is due to vitamin B_1 deficiency.

Other disorders, the nature of which is sometimes difficult of recognition, accompany low grade protein starvation. This deficiency does not always produce effects as outspoken as the nutritive edema and other evidences of faulty diet described by Youmans in the mountains of Tennessee. Less obvious symptoms such as weakness, pallor and the pitting of the ankles and puffiness of the eyelids that follow long continued illnesses may result from lack of protein. In this group should be placed also the toxemias of pregnancy which Strauss [19] has shown to be due to hypoproteinemia, and certain of the hypochromic anemias. A large proportion of the circulating protein is included in the hemoglobin molecule, and without a sufficient supply of this foodstuff hemoglobin is inadequately produced. Evidence of this is seen in the experiments of Weech and his associates,[20] whose dogs, maintained on a diet deficient in protein, experienced a marked fall in red blood cells as well as depletion of circulating proteins. This explains why hypochromic anemia is sometimes so refractory to treatment. Lack of protein is far reaching in its effects.

The relationship of inadequate diet to disease is not always direct. It would take a stretch of the imagination to regard cirrhosis of the liver as a deficiency disorder, yet Connor [21] looks on starvation or partial starvation, plus alcohol, as first among the causes of this disease. He lists the several types of faulty diet which prepare the way and doubts whether the adequately nourished person, even though he uses alcohol to excess, ever develops cirrhosis. Even cataract has been brought into this category. Bourne [22] suggests, since the lens is a growing tissue and since relatively large amounts of essential amino acids are required for the elaboration of its protein, that this structure is in all likelihood susceptible to protein deficiency. A similar influence is attributed to vitamin C, which is normally present in the lens. Since the amount of ascorbic acid is less in the lenses of older animals and least of all in cataractous lenses, and since ascorbic acid is so intimately concerned in the metabolism of this structure, it is thought that its withdrawal will produce degenerative changes. Because of the low ascorbic acid levels reported in the blood of rheumatoid diseases [23] arthritis is also included in this group. Such examples cannot be regarded as final evidence of a directly causative relationship, but they illustrate nonetheless the fact that diseases which apparently are of other origin may develop on a basis of nutritive deficiency.

The chronic undernutrition which leads to the disorders just discussed is far reaching in its effects and sometimes difficult of correction. Witness the experiments of French and Bloomfield,[24] who demonstrated that rats which have lost weight as the result of a defective diet and then have been restored to normal by a stock ration subsequently show more rapid weight loss when again placed on the same defective diet, which is taken to indicate that there has been some real alteration in the status of the animal. This principle is probably applicable to man also, for it is well established that long continued undernutrition will lead to general physical inferiority, small stature, skeletal defects and even intellectual retardation. That nutritive failure during the formative period of life if long continued may result in damage which can never again be completely corrected is evident in the small stature and mental and physical inferiority of children reared in undernourished families.[25] Continued into adult life, such deficiencies may also lead to early decay, as was seen in the experiments of McCollum, who found that mice reared on a diet within the "twilight zone" of good nutrition exhibit relatively early the signs of senility and fail to live out their normal span of life. Other animals show the same tendency; man is probably no exception.

ILLUSTRATIVE CASES

In closing I would like to tell of a few patients who have suffered from the deficiency states I have attempted to describe and then speak briefly of treatment. A patient whose gallbladder had been removed was having a stormy convalescence. She could not be induced to eat, was prostrated far beyond what could reasonably be expected, and was apparently developing a psychosis. In view of her "finicky" appetite and of her history of never having eaten properly since childhood, she was finally given nicotinic acid and daily intramuscular injections of liberal amounts of liver extract. The result was graphic. The psychoneurosis disappeared, she began to eat, and convalescence ensued. The starvation incident to the illness and subsequent operation had simply pushed a borderline deficiency over the border.

Another patient's diagnosis varied from time to time between inadequate personality, constitutional inferiority and neurasthenia. In addition to his numerous bodily complaints he was utterly lacking in stamina. He experienced frequent emotional upsets and could work only a few days at a time; even then he was thoroughly inefficient. Finally, because of the similarity between this young man's complaints and those of many early pellagrins, he was given, in addition to an abundant diet, nicotinic acid. There was immediate improvement. He returned to work and continued to work steadily. Because, no doubt, of damage done to his nervous system many years ago, the original diagnosis of constitutional inferiority still holds good, but since he has taken nicotinic acid his difficulties have largely disappeared.

18. Strauss, M. B., and McDonald, W. J.: Polyneuritis of Pregnancy: A Dietary Deficiency Disorder, J. A. M. A. **100:** 1320 (April 29) 1933.

19. Strauss, M. B.: Nutritional Deficiency and Water Retention in the Toxemias of Pregnancy, J. Clin. Investigation **14:** 710 (Sept.) 1935; Observations on the Etiology of the Toxemias of Pregnancy, Am. J. M. Sc. **194:** 772 (Dec.) 1937.

20. Weech, A. A.; Wollstein, M., and Goettsch, E.: Nutritional Edema in the Dog, J. Clin. Investigation **16:** 719 (Sept.) 1937.

21. Connor, C. L.: The Etiology and Pathogenesis of Alcoholic Cirrhosis of the Liver, J. A. M. A. **112:** 387 (Feb. 4) 1939.

22. Bourne, M. C.: Metabolic Factors in Cataract Production, Physiol. Rev. **17:** 1 (Jan.) 1937.

23. Rinehart, J. F.; Greenberg, L. D.; Baker, Frances; Mettier, S. R.; Brukman, F., and Choy, Frank: Metabolism of Vitamin C in Rheumatoid Arthritis, Arch. Int. Med. **61:** 537 (April) 1938. Rinehart, J. F.; Greenberg, L. D.; Olney, Mary, and Choy, Frank: Metabolism of Vitamin C in Rheumatic Fever, ibid. **61:** 552 (April) 1938.

24. French, L. R., and Bloomfield, A. L.: "Latent Deficiency" in Rats, J. Nutrition **14:** 117 (Aug. 10) 1937.

25. Richards, M. B.: Role of Vitamin A in Nutrition, Brit. M. J. **1:** 99 (Jan. 19) 1935.

An elderly business man complained constantly of abdominal distress with distention, for which no cause could be found except lack of intestinal muscle tone. On two occasions he had been given a prolonged "rest cure." He did not have pernicious anemia but when everything else had failed he was given rather large intramuscular injections of liver extract. His appetite returned, his indigestion disappeared, he gained weight, and today he is vastly more comfortable.

A woman of middle age was highly nervous, complained of a great assortment of pains, and not only acted in a peculiar manner but on one occasion attempted to kill her husband. Although she was apparently well nourished and showed no other evidence of disease, the generalized tenderness throughout her body suggested the possibility of vitamin B_1 deficiency, and she was given daily thiamin chloride 10 mg. and nicotinic acid 400 mg. Following this she has assumed a more rational attitude toward her surroundings, the pains have disappeared, and she reports that she feels entirely well. Her psychosis has disappeared.

A woman of middle age who since childhood has lived on a peculiarly one sided diet and who the greater part of her life has suffered from manic depressive psychosis developed diabetes and was forced to live on a rational, well balanced diet such as she had never known before. She remained nervous, but for the seven years during which she has been on this diet she has entirely escaped her former periods of alternating excitement and depression and has shown greater poise than at any time in her previous life. No one would make bold to say that manic depressive insanity is a nutritional disease, but it is not unlikely in this case at least that the stability of the nervous system and the course of the disorder were influenced by the nutritive state of the patient.

SUMMARY

The most important part of this address, that concerning the prevention and treatment of deficiency diseases as I have seen them, can be reduced to a few words:

1. For the prevention of nutritive failure, dependence should be placed always on an adequate diet, not on vitamin concentrates.

2. Diets which are fully suitable for prevention are as a rule entirely inadequate for treatment; for the latter purpose much larger amounts of food are necessary and resort must then be had to preparations obtained from the pharmacist.

3. Because of the hazards of absorption these therapeutic agents, notably those provided by the liver, must often be given parenterally.

4. When liver extract is used it should preferably be given in the broader fraction, not too concentrated. Because of the several nutritive essentials carried by the less highly concentrated fraction, it gives the patient, even in pernicious anemia, a greater boost and enhances to a larger degree his sense of well-being.

5. The administration of small quantities of liver extract and of other needed substances is often futile. The physician who would treat pellagra, and I believe that this holds good in other deficiency states, must not be timid. Whatever is needed, he must have the boldness to give it in large amounts.

SHORT WAVE DIATHERMY IN THE TREATMENT OF LUNG ABSCESS

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Recently Krusen [1] in a paper on short wave therapy discussed the remarkably good results reported by Schliephake [2] with this form of treatment in lung abscess. Krusen himself has treated one patient, without success, although he states that he followed exactly the technic described by Schliephake, using the same type of apparatus and electrodes. After discussion of the short wave treatment of lung abscess, Krusen concludes that "further studies are undoubtedly necessary in order to confirm or refute Schliephake's claims." If the short wave treatment will cure lung abscess it is an important advance in therapeutics, as the methods of treatment in general use today are unsatisfactory. According to a recent statistical survey from the Massachusetts General Hospital by King and Lord [3] the mortality is about 40 per cent. Forty-five patients of 210 (21.5 per cent) treated conservatively by medical measures recovered, most of them with acute abscesses and short illnesses. Of ninety-six patients on whom operations were performed, thirty-eight (39.5 per cent) died, and in twelve cases death was attributed in part at least to the operative intervention. The authors recommended conservative treatment for from two to three months and operation if there is no definite sign of improvement during this time.

Schliephake,[4] who had clearly shown the value of short waves in the treatment of furuncles and carbuncles, reported in 1933 that he had cured at the Rudolf Virchow Hospital in Berlin eight unselected patients with lung abscess by short wave diathermy and that there had not been a single failure. In his paper the clinical records were given in detail and additional evidence of rapid improvement was presented in serial roentgenograms. All the cases reported were treated within a short period, namely from the fall of 1932 to the spring of 1933. Although the remarkable results obtained by Schliephake in the treatment of this serious disease made quite a stir, no additional cures have been reported from Berlin in the five years that have elapsed since his original publication. Schweitzer [5] of the Robert Koch Hospital in Berlin stated in a paper published in 1935 that he had treated four patients with lung abscess by short wave with no success. In 1936 Schliephake [6] reported four more cases of lung abscess treated by him in Giessen, in all of which the condition was cured. In his latest paper [7] he cites the same number of cases as in 1936.

In 1935 Liebesny [8] of Vienna described in detail four cases of recovery. In two earlier cases no benefit was obtained. This failure Liebesny attributed to

From the Medical Clinic of the New England Medical Center.

1. Krusen, F. H.: The Present Status of Short Wave Diathermy, J. A. M. A. **110**: 1280 (April 16) 1938.
2. Schliephake (footnotes 4 and 6).
3. King, D. S., and Lord, F. T.: Certain Aspects of Pulmonary Abscess from an Analysis of 210 Cases, Ann. Int. Med. **8**: 468 (Oct.) 1934.
4. Schliephake, Erwin: Die klinische Verwendung der elektrischen Ultrakurzwellen, Klin. Forth. **1**: 475, 1933.
5. Schweitzer, Georg: Die Kurzwellentherapie in der inneren Medizin, Med. Klin. **31**: 1578 (Nov. 29) 1935.
6. Schliephake, Erwin: Development of Short Wave Therapy, Arch. Phys. Therap. **17**: 487 (Aug.) 1936.
7. Schliephake, Erwin: Clinical Aspects of Short Wave Therapy, Brit. J. Phys. Med. **1**: 7 (Jan.) 1938.
8. Liebesny, Paul: Kurz- und Ultrakurzwellen, Vienna, Urban & Schwarzenberg, 1935, p. 144.

faulty technic. Neither Schliephake nor Liebesny gave the subsequent history of their patients. The record ends when the patients left the hospital, although in some mild symptoms and x-ray changes existed at the time of discharge. In three patients whom Fiandaca [9] reported as cured, cavities were still demonstrable by x-ray examination when the last observations were made. The end results were not stated. Matarese [10] has questioned the permanence of the recovery obtained by short wave therapy. Our experience, recorded later, indicates the importance of following up the patients after discharge. In our first case there was speedy and marked improvement. The abscess diminished greatly in size but did not disappear. Months later symptoms returned, the abscess enlarged and an operation was necessary. It is a fact worthy of emphasis that no patient with lung abscess should be regarded as cured until the roentgenograms furnish evidence that the lesion in the lungs has disappeared or been replaced by firm contracted scar tissue, which has a characteristic shadow.

An analysis of the favorable results makes the proper evaluation of them difficult. Most of the reports deal with only a few cases. Dieker,[11] Fiandaca [9] and Schliephake [6] have treated relatively large series. Cignolini,[12] Strauch [13] and Portret and Boudaghian [14] have reported in detail either a few cases or only a single case. Hrabovszky [15] and Grynbaum [16] simply stated that they had good results in a number of cases. Even the satisfactory reports of Schliephake,[6] Liebesny,[8] Fiandaca [9] and Dieker [11] do not contain all the information desired. There were no controls, and this is particularly to be regretted in Dieker's series, as most of his cases occurred during an epidemic of "grip" in 1936 and 1937 in which postpneumonic lung abscess was a frequent complication. Some of the patients were treated by other methods in addition to short wave therapy. This, however, seems to us of little importance, since there is no generally recognized treatment of lung abscess that is definitely curative except operation.

Schliephake [6] gives as the essentials of technic in the treatment of lung abscess the use of an apparatus with a large output of energy, a wide air gap between the electrodes and the skin of the chest, and great field intensities. In his [4] report of the eight cases successfully treated in Berlin, he stated that he used a 12 meter wavelength on "purely technical grounds." The usual duration of the treatment was from thirty minutes to an hour. He was convinced at that time that a shorter wave would act better on deep-lying organs and would enable the duration of the treatment to be shortened. He used electrodes 20 cm. in diameter placed about 5 cm. from the skin.

Many variations in technic have been used by subsequent investigators who have claimed success in the treatment of lung abscess. Liebesny [8] used a 15 meter wave with three patients and an 8 meter wave with the fourth. He placed the electrodes at least 10 cm. from the surface of the chest and deemed that a wide air gap was essential.

Grynbaum,[16] using a 6 meter wavelength in a case of lung abscess, obtained no success when the electrodes were 2 cm. from the body. On the advice of Liebesny he increased the distance to 10 cm. and so regulated the dosage that the patient was not conscious of any sensation of heat. Speedy improvement followed, leading to complete recovery.

Hamann [17] had his electrodes only 2 cm. from the skin and reported that three of the five patients so treated recovered. He used, however, a spark gap machine. Its wattage was only 200. Dieker,[11] who has reported in detail the largest number of patients cured, fifteen of sixteen treated, used a machine of large output, a wavelength of 6 meters and the electrodes placed at least 4 cm. from the skin. The initial treatment lasted five minutes. The length was increased in subsequent treatments to fifteen or twenty minutes. Bottaliga of Rome [18] treated one patient with success, using a wavelength of from 18 to 22 meters and a unipolar application of the electrode, which was placed 5 cm. from the skin. Fiandaca,[9] using a wavelength of 15 meters, reported ten patients cured in a series of twelve treated. He used the greatest energy he could obtain, and he regulated the apparatus so as to administer the maximum dose that was bearable without causing a burn. In a recent paper Schliephake [7] stated that "too great an overdose may lead to a fatal issue." This should make one hesitate to adopt Fiandaca's procedure. Liebesny [8] and also Grynbaum,[16] on the other hand, so adjust the strength of current and the width of the air gap that the patient has only the slightest sensation of heat in the skin or none at all. Schliephake aims to secure a pleasant sensation of warmth.

Recoveries Reported in the Literature

	Number of Cases	Number of Recoveries
Hrabovszky	18	18
Dieker	16	15
Schliephake	15	13
Jacchia and Ghetti	14	4
Fiandaca	12	10
Strauch	7	6
Cignolini	8	1
Portret and Boudaghian	6	6
Liebesny	6	4
Hamann	5	3
Grynbaum	5	5
Agnoli and Vallebona	4	1
Schweitzer	4	0
Izar	3	0
Lezius	2	0
Vosschulte and Schwarzhoff	2	0
Bottaliga	1	1
Cobet	1	0
	129	87

Percentage of recoveries, 67.

A tendency for the patient to bleed seems to be a definite contra-indication to this form of treatment. Strauch,[13] Lezius [19] and Fiandaca [9] each reported a death due to severe hemoptysis following a treatment.

Some unfavorable reports have been published. Izar [18] had no results in three cases of lung abscess. He made a daily application for a month of short wave radiation for from twenty to forty minutes and employed a 4, 8 and 15 meter wavelength. Agnoli and

9. Fiandaca, Salvatore: Short Wave Diathermy in Pulmonary Infections, Arch. Phys. Therap. **18:** 79 (Feb.) 1937.
10. Matarese, V.: A Contribution to the Treatment of Lung Abscess by Diathermy, Boll. Accad. Rancis **7:** 298, 1934; cited by Lezius.[19]
11. Dieker, Wilhelm: Unsere Erfahrungen mit der Kurzwellenbehandlung bei Lungenabscessen, Deutsche med. Wchnschr. **63:** 1076 (July 9) 1937.
12. Cignolini, Pietro, and others: Marconiterapia, Milan, Ulrico Hoepli, 1936, p. 299.
13. Strauch, F. W.: Zur Behandlung der Lungenabscesse, Deutsche Med. Wchnschr. **62:** 1423 (Aug. 28) 1936.
14. Portret, Stephen, and Boudaghian, B.: Traitement des abcès du poumon par les ondes courtes, Médecine **18:** 469 (June) 1937.
15. Hrabovszky, Z.: Ueber die Ergebnisse der Ultrakurzwellenbehandlung bei den eitrigentzündlichen Lungenerkrankungen, Internat. Kongr. f. Kurzwellen, 1937.
16. Grynbaum, M.: Kasuistische Beiträge zur Kurzwellentherapie, Internat. Kongr. f. Kurzwellen, 1937, p. 238.
17. Hamann, A.: Zur Kurzwellenbehandlung von Lungenabscessen, Deutsche med. Wchnschr. **63:** 1080 (July 3) 1937.
18. Cited by Cignolini.[12]
19. Lezius, Albert: Die Behandlung der Lungengangrän, Chirurg. **7:** 553 (Aug. 15) 1935.

Vallebona [18] reported a cure in one case but failure in four other cases. Cignolini [12] failed in seven cases to effect recovery. Lezius,[20] in a monograph published in 1936, said that he had observed no healing of abscesses after short wave therapy. One of his patients died of hemorrhage immediately after irradiation and a second two weeks later from extensive new areas of destruction of lung tissue. In a paper on the treatment of gangrene of the lung written from the Heidelberg surgical clinic, Lezius [19] said "We had very poor results with roentgen and short wave irradiation of the lung" (Ganz schlechte Erfahrungen machten wir mit Roentgen- und Kurzwellenbestrahlung der Lunge). In ten cases Jacchia and Ghetti [21] failed to obtain a cure, but in four they claimed complete recovery. Vosschulte and Schwarzhoff [22] in a recent paper stated that they had operated in two cases in which short wave therapy had been employed for a long time without any success.

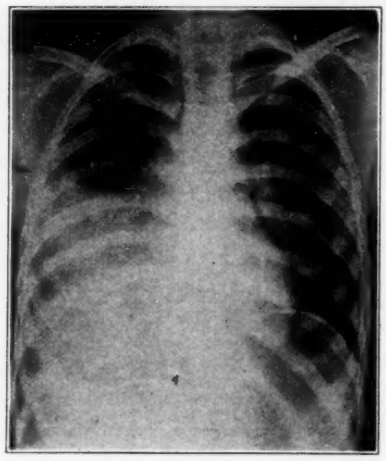

Fig. 1 (case 1, June 21, 1935).—Large shadow involving nearly one half of the entire right lung field (which has a circular outline in the oblique position). No fluid level was visible. Diagnosis: large lung abscess.

We have collected from the literature 129 cases of lung abscess and gangrene treated with short waves by eighteen clinicians, as shown in the accompanying table. Eighty-seven of the patients, or 67 per cent, were reported to be cured.

The following series has been carefully studied. The patients with two exceptions were hospitalized during the course of therapy. This made possible a careful observation of temperature, pulse, physical signs, sputum and blood sedimentation rate. Roentgenograms were made at frequent intervals. Schliephake's original recommendations regarding technic were carefully followed.

Treatments were usually given daily, beginning with an initial one of ten minutes' duration. The duration was gradually increased to thirty or even forty-five minutes. Large glass electrodes 20 cm. in diameter were used. They were usually placed from 4 to 6 cm. from the skin. The wavelengths selected were 4 cm. or 6 cm. A large two vacuum tube machine was used. It has an output of 500 watts when generating a 6 meter length.

During the first treatments increased expectoration was often noticed. In one case treatment was discontinued for three days owing to the presence of blood in the sputum. The treatments did not disturb the patients after they became accustomed to the procedure.

ACUTE LUNG ABSCESS

CASE 1.—*History and Course.*—M. H., a girl aged 10 years, had had a tonsillectomy April 27, 1935, and pain in the right side of the chest June 6. Later fever and cough developed, with foul sputum. On her admission to the Boston Floating Hospital June 20 there were dulness and diminished breath sounds over the right side of the chest. X-ray examination showed evidence of a lung abscess (fig. 1). The temperature varied between 100 and 103 F. and the pulse was accelerated. The total amount of sputum was from 20 to 80 Gm. daily. July 1 short wave treatment was begun. Three days later the temperature fell to normal. July 6 the physical signs had disappeared. The blood sedimentation rate dropped from 55 mm. in one hour July 1 to 22 mm. July 16. No further determination was made until December 3, when it was 4 mm. in one hour. July 11 a roentgenogram showed clearing of the infiltration, but the cavity was unchanged (fig. 2). During the following month it shrank until it measured only 2 cm. by 1 cm. In a roentgenogram made August 23 the abscess was no longer visible (fig. 3). There was a good gain in weight, and the patient seemed to make a complete recovery except for the persistence of a small cavity, as shown by later roentgenograms. The last short wave treatment was given Feb. 12, 1936. She returned to the Children's Clinic on request from time to time. March 14 a note was made that she was going to school and feeling well and that there was no cough or expectoration. She remained free from symptoms until September, when there developed a cough, which persisted. When she was seen October 31 her temperature was 101.2 F. The sputum was purulent and of foul odor. There were dulness and bronchial breathing over the lower part of the right lung. A roentgenogram revealed an abscess involving the entire middle lobe (fig. 4). November 5 she was sent to the Massachusetts Memorial Hospitals with a temperature of 101 F. There the abscess was drained in a three stage procedure. At operation it was found to involve the entire middle lobe. During the following months the patient slowly recovered, and she was discharged April 26, 1937, with a small sinus still present.

Therapy.—A 4 meter wavelength was used with large electrodes 3 cm. from the skin. Treatments were given daily, lasting from ten to forty-five minutes. The total number of treatments was 113 and they extended from July 1, 1935, to Feb. 12, 1936.

This case seemed to be a striking demonstration of the curative value of short wave therapy in lung abscess. The symptoms rapidly disappeared, but a small cavity persisted in spite of 113 short wave treatments given over a period of more than six months. The patient remained clinically well for over a year. Then symptoms returned, the abscess enlarged and surgical treatment was necessary. The case teaches that a lung abscess is not cured until the cavity is closed and replaced by scar tissue.

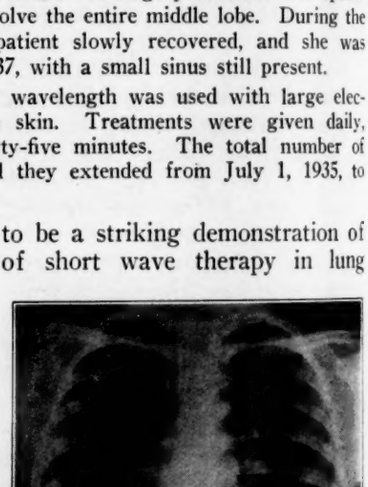

Fig. 2 (case 1, July 19).—Nineteen days after short wave treatments were begun the shadow was reduced in size but there was a large cavity in the lung with a fluid level clearly visible.

CASE 2.—*History.*—A. G., a single woman aged 29, had a tonsillectomy April 7, 1938, and nine days later, April 16, there was a sudden rise of temperature with chill and cough. From the onset until admission to the Diagnostic Hospital of the New England Medical Center April 21 the temperature had ranged from 100 to 102 F. and there had been severe pain in the lower right lateral region of the chest, with increasing cough and sputum amounting to as much as 100 Gm. daily. On two occasions it had a foul odor and taste. On admission the patient appeared acutely ill. There was an almost con-

20. Lezius, Albert: Der Lungenabscess, Ergebn. d. Chir. u. Orthop. **29**: 571, 1936.
21. Jacchia and Ghetti: Treatment of Lung Abscess with Short Wave Therapy, Gior. med. d. Alto Adige **8**: 1938; abstr., Med. Klin. **34**: 483 (April 8) 1938.
22. Vosschulte, K., and Schwarzhoff, E.: Spontanheilung, interne Behandlung und Indikation zum chirurgischen Engriff beim Lungenabzess, München. med. Wchnschr. **85**: 580 (April 12) 1938.

tinuous cough, with choking attacks and the expectoration of foul-smelling sputum. There was slight dulness over the lower part of the right lung posteriorly. In this area a few moist rales were present. The sputum contained a few spirochetes, fusiform bacilli and many elastic fibers. No tubercle bacilli were found. Roentgenograms April 21 showed an area of homogeneous density in the mid third of the right lung in which a fluid level was seen. May 5, fourteen days after admission, the cavity appeared much larger. The clinical course was marked by continuous fever during the first nine days. On the ninth day the patient coughed up 717 Gm. of sputum in twenty-four hours. After this the amount of sputum ranged between 100 and 200 Gm. The temperature was unchanged. The blood sedimentation rate remained the same. It was 24 mm. in one hour April 22 and also May 5.

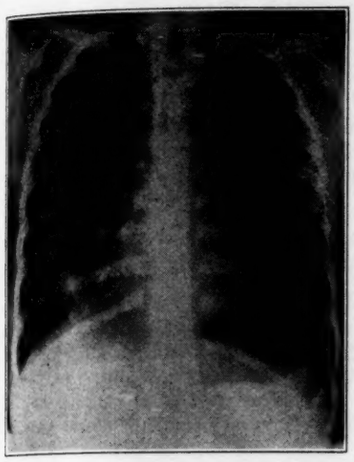

Fig. 3 (case 1, August 23).—The abscess cavity can no longer be discerned. It is apparently replaced by dense tissue.

The patient received either 0.1 Gm. or 0.05 Gm. of neoarsphenamine on three occasions. This treatment was discontinued on account of a marked reaction after the third treatment.

Therapy.—Daily treatments were given except for the four days from April 27 to May 2. A 6 meter wavelength was used with large electrodes, each placed 6 cm. from the skin. The duration of the single treatments was from five to fifteen minutes. Severe paroxysms of coughing, together with the weakened condition, made treatments longer than fifteen minutes unadvisable. The total number of treatments was eight.

Course.—There was no change in the clinical picture, but there was a definite increase in the size of the cavity. Therefore the patient was transferred to the New England Deaconness Hospital, where a large abscess cavity was found and drained by Dr. Overholt. She made a good recovery.

In this case of lung abscess following tonsillectomy, short wave therapy was given over a rather short period, but as the patient's symptoms were not diminished and as the abscess increased in size it seemed proper to resort to surgical treatment. In view of the small number of treatments given one might not be justified in recording this case as a failure of short wave therapy. On the other hand, eight treatments given in two weeks failed to produce the slightest amelioration of the symptoms.

CHRONIC LUNG ABSCESS

CASE 3.—*History.*—G. B., a housewife aged 35, had pneumonia of the lower lobe of the right lung in 1928 and since then had raised from 20 to 30 Gm. of sputum daily. Between 1929 and 1932 several hemoptyses occurred. For the past few years she had felt fairly well and had been able to do a moderate amount of housework. On examination Sept. 19, 1935, slight pallor was noted. There was flatness over the right side of the chest; here a few sibilant and consonating rales were heard. No tubercle bacilli or elastic tissue could be found in the sputum. The sedimentation rate was 17 mm. in one hour. There was no anemia. Roentgenograms showed a faint triangular shadow in the middle of the right lung, which was interpreted as due to an abscess. During the following days the sputum averaged 50 Gm. The hemoglobin content was 89 per cent and the red cell count 4.7 million per cubic millimeter. The temperature was normal. Bronchoscopic examination supported the diagnosis of abscess of the lung.

Therapy.—Radiation with a 4 meter wave was given daily for from fifteen to forty minutes with electrodes 20 cm. in diameter placed 4 cm. from the skin.

Course.—Treatment was continued from September 23 to December 23, when she was discharged. The results of x-ray examination remained unnchanged, and when she left the hospital she was raising from 30 to 48 Gm. of mucopurulent odorless sputum daily.

This patient had a very chronic and benign form of lung abscess. There was no improvement, although short wave treatment was given for three months.

CASE 4.—*History.*—R. H., a business man aged 56, had a febrile pulmonary infection in December 1933 following exposure to cold. A roentgenogram of the chest in June 1934 showed changes suggestive of bronchopneumonia. Cough had persisted since then. In September 1934 an x-ray examination revealed an abscess in the lower lobe of the left lung, as did one done in April 1935. On admission June 6, 1935, he stated that the cough and sputum had increased during the previous three weeks and that the sputum was purulent. There was dulness over the lower lobe of the left lung. Occasional medium and coarse rales were heard over this region. The temperature during the stay in the hospital did not rise above 99.6 F.; the average pulse rate was 95. The blood sedimentation rate was 6 mm. in one hour (Westergren). A blood count showed 7,100 leukocytes and 5.2 million erythrocytes per cubic millimeter and a hemoglobin content of 100 per cent. The sputum amounted to between 12 and 60 Gm. in twenty-four hours; there were many elastic fibers in one specimen but no tubercle bacilli. X-ray examination revealed in the eighth intercostal space of the left lung a definite round shadow 3 cm. in diameter apparently half filled with fluid.

Therapy.—Thirty-four treatments were given, a 4 meter wavelength being used. Large electrodes were placed 4 cm. from the skin of the chest. For the first fortnight a short wave treatment was given daily, and then a treatment was omitted two or three times a week.

Course.—No improvement in the patient's general condition was noticed. A roentgenogram made at the end of treatment showed no change in the size or the appearance of the abscess.

This case represents a benign form of a well encapsulated abscess without signs of activity. Despite prolonged treatment there was no change in the size of the abscess.

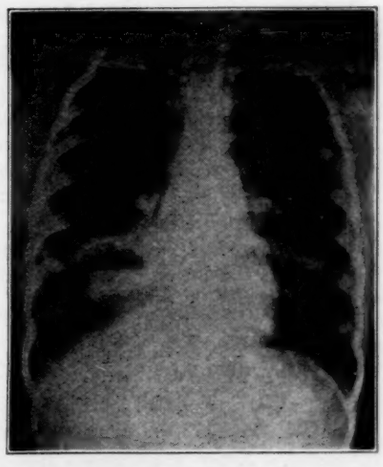

Fig. 4 (case 1, Nov. 5, 1936).—The cavity, with a fluid level, is larger than in July 1935.

CASE 5.—*History.*—H. R., a boy aged 9 years, swallowed a blade of grass Oct. 4, 1935, and apparently had pneumonia one week later. Subsequently a diagnosis of lung abscess was made and confirmed by x-ray examination. In January 1936 he was placed in a hospital outside Boston, where aspiration of the abscess was attempted. Empyema then developed. Two ribs were resected and 500 cc. of pus removed. Improvement followed and the temperature fell to normal. He was admitted to the Diagnostic Hospital of the New England Medical Center February 17. He was pale and undernourished, and there was a foul odor to the breath. There was a draining sinus in the right lower part of the chest, with dulness on percussion over this part and diminished breath sounds. The hemoglobin content was 70 per cent, the leukocytes numbered 17,200 per cubic millimeter and the sedimentation rate was 50 mm. in one hour. The sputum contained no acid-fast

bacilli or elastic fibers and varied in amount from 60 to 120 Gm. X-ray examination revealed a marked infiltration of the lower lobe of the right lung with an ill defined lower margin and a curved outline of the upper margin. He was in the hospital nearly two months and had a mild fever throughout his stay. The average pulse rate was 100.

Therapy.—Daily irradiation was performed with a wavelength of 4 meters and large electrodes placed about 3 cm. from the skin. The total number of treatments was forty-two.

Course.—There was no change in the amount of sputum, temperature or general condition during his stay at the hospital. He was transferred to the Massachusetts Memorial Hospitals, where lobectomy was attempted July 17. He did not survive the operation.

This was a case of severe lung abscess due to a foreign body. The condition did not respond to short wave therapy.

CASE 6.—*History.*—E. Y., a machine tender aged 21, who showed the first signs of pulmonary involvement in April 1936, when he began to cough and raise blood-streaked sputum, was under observation in the Diagnostic Hospital from June 2 to June 25. There was dulness over the right side of the chest. Diminished breath sounds and moist rales were present over the entire right lung. The leukocytes numbered 28,200 per cubic millimeter. The blood sedimentation rate was 52 mm. in one hour. X-ray examination showed a large area of infiltration in the upper lobe of the right lung with areas suggestive of destruction of lung tissue. During his first stay in the hospital the infiltration lessened and the sputum decreased from 100 to 25 Gm. A roentgenogram taken on discharge showed remarkable regression of the infiltration, but a definite area of softening had developed. He improved for a time. On August 9 cough returned, and he was readmitted August 16. The sputum had increased in amount and had developed a foul odor. It amounted to between 30 and 50 Gm. in twenty-four hours. Only a single elastic fiber was found in the sputum; there were no tubercle bacilli. The temperature varied from normal to 103 F. X-ray examination August 20 showed an infiltration involving two thirds of the upper lobe of the right lung with a questionable fluid level.

Therapy.—Radiation with a 6 meter wavelength was given daily for nine days for from fifteen to thirty minutes, large electrodes placed 4 cm. from the skin being used.

Course.—The temperature fell somewhat after a few days but later rose again. X-ray examination September 14 showed extension of the infiltration toward the base with a fluid level present. The patient was transferred to the Massachusetts Memorial Hospitals, where September 19 operation (drainage of two lung abscesses and resection of three ribs) was performed. He died October 6. Autopsy revealed multiple abscesses in the lower lobe of the left lung.

This patient when treated was in a toxic condition. He was in no way benefited by short wave treatments and finally died in spite of operation.

CASE 7.—*History.*—F. R., an Italian shoemaker aged 44, became ill Feb. 12, 1937, when fever, cough and headache developed. X-ray examination four weeks later showed an isolated abscess with a fluid level in the lower lobe of the left lung. Operation was advised in October but refused. Later cough, expectoration and loss of weight became more pronounced. The patient entered the Diagnostic Hospital November 17. He showed signs of chronic infection and pallor and coughed frequently. He weighed 98 pounds (44 Kg.). The temperature was 100 F., the respiratory rate 36 and the pulse rate 88. There were slight dulness over the lower lobe of the left lung and a slight decrease in the tactile fremitus over the base of the left lung, where numerous moist rales were heard after coughing. A blood count showed 14,500 leukocytes and 4.5 million erythrocytes per cubic millimeter and a hemoglobin content of 65 per cent. The sedimentation rate was 78 mm. in one hour (Westergren method). The sputum ranged in amount from 160 to 460 Gm. in twenty-four hours and had a foul odor; no spirochetes were found. X-ray examination on admission showed a dense shadow over the lower lobe of the left lung.

Therapy.—The patient was given thirty-six treatments with a 6 meter wavelength for twenty minutes daily from November 19 to January 6, except on Sundays and holidays. The electrodes were 20 cm. in diameter and were placed 4 cm. from the skin of the left lower part of the chest.

Course.—The temperature varied between 100 and 102 F. and the respiratory rate between 30 and 36. The pulse remained accelerated. There was a slight increase in weight but no change in general condition of the results of x-ray examination. December 27 the sedimentation rate had risen to 127 mm. in an hour.

The patient was transferred to the surgical department of the Peter Bent Brigham Hospital, where he died after drainage was performed. An autopsy revealed multiple abscesses in the left lung.

In this case progressive multiple abscess formation was not influenced by short wave therapy.

CASE 8.—*History.*—J. B., a man aged 22, who in March 1937, on the ninth day after an appendectomy, was seized with a shaking chill followed by a severe cough and high fever, the following day raised fetid sputum. A week later an x-ray examination showed an infiltration of the upper lobe of the left lung. Cough and fever continued, and about 30 Gm. of foul sputum was raised daily. He lost 20 pounds (9 Kg.). During the summer the symptoms gradually disappeared. Through the fall and early winter he was fairly well and regained 20 pounds. In February 1938, three weeks before admission, he was seized with cough, pain in the right upper part of the chest and fever. The fever persisted for a week. On admission, March 30, his weight was slightly diminished, his general condition was fair, there was no anemia and he had moderate cough. A few sibilant rales were heard over the base of the left lung; otherwise the physical examination gave negative results. A roentgenogram of the chest showed two cavities in the apex of the lower lobe of the left lung. The sputum contained many elastic fibers but no tubercle bacilli or spirochetes.

Therapy.—Daily short wave treatments for from ten to twenty minutes with a 6 meter wavelength were given. Large electrodes were used over the lower lobe of the left lung at a distance of 10 cm. in front and 4 cm. in back. The total number of treatments was nineteen.

Course.—During hospitalization he remained afebrile except for five days (April 18-April 23), when he had an increase of sputum, headache and a rise of temperature to 102 F. The sputum ranged in amount from 75 to 250 Gm. daily, contained a little blood occasionally and had a fetid odor. There was no improvement in the results of examination on discharge. He was transferred to the New England Deaconness Hospital, where Dr. Overholt did a three stage drainage of the lung abscesses. He made a good recovery.

Chronic abscesses in the lower lobe of the left lung causing relatively mild symptoms were uninfluenced by short wave therapy.

COMMENT

We have published our results because we believe they indicate clearly that short wave therapy is of far less value in the treatment of lung abscess than the advocates of this method claim. We are especially doubtful of the possibility of curing chronic abscesses with short waves. There is a certain danger, as recently pointed out by Vosschulte and Schwarzhoff,[22] that patients may be lost by persistence in conservative treatment who might be saved by surgical intervention. Whether or not short wave therapy will cure acute lung abscesses is still undecided. As an analysis of the

reported cases shows that eighty-five of 128 patients with lung abscess, or 66 per cent, recovered, the evidence is clear that a further trial of this method should be made with patients seen early in the disease before surgical intervention is resorted to. We have used throughout the most powerful apparatus of European manufacture, identical with the best equipment employed by those who have reported cures, large Schliephake electrodes, and have given daily treatments of the same duration as those by others who have had success. Dieker,[11] using exactly the same technic that we employed in most of our cases, a large output of energy, a wavelength of 6 meters and a distance from the skin of at least 4 cm., reported fifteen recoveries in sixteen cases. The only reasonable change we can make in technic is to increase the distance of the electrodes from the chest. In view of the experience of Liebesny [8] and others we shall use in the future an air gap between the electrode and the skin of 10 cm.

SUMMARY

In two cases of acute and in six cases of chronic abscess of the lung, short wave therapy was not successful in effecting a cure.

30 Bennet Street.

BILE SALT SOLUTIONS IN INFECTIONS WITH BETA HEMOLYTIC STREPTOCOCCI

THEIR THERAPEUTIC AND PROPHYLACTIC PROPERTIES

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Hilgermann [1] has advocated parenteral administration of small amounts of sodium taurocholate as an effective prophylactic and therapeutic measure in treating infections caused by beta hemolytic streptococci. He offered the following theoretical basis for its use: Injection of small quantities of sodium taurocholate brings about death and solution of small numbers of streptococci, from which antigenic substances are liberated; these antigens induce an active immunity to the invading organism by stimulating formation of protective antibodies. No convincing evidence was offered to support this theory. Hilgermann's experiments with mice were preliminary and meagerly detailed; Stoeckel's [2] more complete work only partially supported Hilgermann's claims. The results of the clinical use of sodium taurocholate [3] were suggestive but not at all conclusive, owing principally to the lack of extensive bacteriologic data but also to the use of other forms of treatment along with the bile salt therapy.

Our attention was brought to the status of this problem by the late Dr. John E. Greiwe, who had obtained a supply of Hilgermann's bile salt preparation (prepared by Schering-Kahlbaum). Greiwe had used this material clinically without success. This clinical failure and the obvious theoretical objections to the use of any bile salt preparation for this purpose suggested the need of more extensive experimental work than Hilgermann had reported.

We have performed both prophylactic and therapeutic experiments with mice, using (1) Hilgermann's preparation and (2) a solution prepared in our own laboratory containing sodium taurocholate and sodium deoxycholate. These solutions were tested against infections produced with different strains of beta hemolytic streptococci. Our results have been uniformly negative; in every experiment, regardless of the amount of the therapeutic agent administered or the time or mode of administration, the treated animals have died as rapidly as the controls.

EXPERIMENTS

Therapeutic Solutions.—Hilgermann has never given the exact composition of his sodium taurocholate solution, either in publications or in communications to Greiwe. It is said to be a dilute solution of sodium taurocholate in a special buffer, the nature of which is not disclosed. Qualitative examination gave the following results: The solution gave a very weak Pettenkofer reaction and a negative Gregory-Pascoe reaction. Unless the buffer inhibited the ordinary reactions of sodium taurocholate, this observation indicates that if a bile salt is present it is more likely a derivative of deoxycholic acid than of cholic acid. Alkaline hydrolysis liberated aminonitrogen equivalent to that contained in a 0.44 per cent solution of sodium taurodeoxycholate. Sulfur was present. The solution had a p_H of 8.2 and contained 0.6 per cent of phenol.

The solution prepared in our laboratory contained 0.5 per cent sodium taurocholate, 0.05 per cent sodium deoxycholate and 0.5 per cent phenol, all in tenth molar aminoacetic acid buffer at p_H 8.2.

Administration: The solutions were injected, both subcutaneously and intraperitoneally, in amounts varying from 0.5 cc. of the undiluted solutions to 0.5 cc. of 1 : 10,000,000 dilutions. When used prophylactically these amounts were injected forty-eight, twenty-four and twelve hours prior to infection. When they were used therapeutically, some groups of animals were treated immediately and others two and four hours after infection.

Streptococci.—Five strains of beta hemolytic streptococci were studied. Two, Schw and C203, were supplied by Dr. Perrin H. Long of Johns Hopkins University; these were highly virulent for mice, 10^{-8} cc. of a sixteen hour blood broth culture killing mice within forty-eight hours. The other three strains were freshly isolated from human beings and passed through numerous mice until maximum virulence was obtained; two were as virulent as Schw and C203; the third was of low virulence, 10^{-4} cc. of a sixteen hour culture being required to kill a mouse. In our experiments all mice were infected intraperitoneally with ten minimum lethal doses of the streptococci.

From the Christ Hospital Research Institute.

1. Hilgermann, Robert: Die Chemotherapie der Streptokokkeninfektion, München. med. Wchnschr. **77**: 1970-1971 (Nov. 14) 1930; Chemotherapie mit gallensauren Alkalien ein sicheres Heilmittel bei Streptokokkeninfektionen, Zentralbl. f. Gynäk. **60**: 1090-1096 (May 9) 1936; Chemotherapie und Prophylaxe der Streptokokkeninfektion mittels gallensauren Alkalien, ibid. **60**: 2290-2294 (Sept. 26) 1936.

2. Stoeckel, K. H.: Tierexperimentelle Untersuchungen mit dem Chemotherapeutikum Taurolin (Hilgermann), Ztschr. f. Immunitätsforsch. u. exper. Therap. **91**: 285-298 (Oct. 15) 1937.

3. Schäfer, Günther: Die Erfolge der Chemotherapie mit gallensauren Alkalien bei Puerperalfieber und bei gynäkologischen Streptokokkeninfektionen, Zentralbl. f. Gynäk. **60**: 1096-1107 (May 9) 1936.

RESULTS

The results of a typical experiment, that with C203, are shown in the accompanying table. Our results have been entirely negative; neither Hilgermann's preparation nor our own possessed prophylactic or therapeutic properties.

This observation is contrary to those reported by Hilgermann and Stoeckel. A comparison of our work with Hilgermann's is impossible, since he has not presented any experimental data. Stoeckel used a beta hemolytic streptococcus of low virulence; his control mice infected with 10^{-1} cc. of a twenty-four hour broth culture survived for three days. Three of seven mice infected with 0.1 cc. of that culture and treated with 0.5 cc. of 1:100,000 and 1:1,000,000 dilutions of Hilgermann's preparation survived; mice treated with 0.5 cc. of a 1:10,000 dilution died, as did the controls.

Effects of Prophylactic and Therapeutic Treatment on the Survival Time of Mice Infected with Beta Hemolytic Streptococci (C203)

No. of Mice in Group	Time of Administration	Solution Administered*	Amount Injected (Cc.)	Average Survival Time (Hours)
6	48 hours prior to infection	H	0.5	40
6	48 hours prior to infection	S and R	0.5	43
6	24 hours prior to infection	H	0.5	41
6	24 hours prior to infection	S and R	0.5	41
6	12 hours prior to infection	H	0.5	42
10	Controls	None	0.0	43
6	On infection	H	0.5	44
6	On infection	S and R	0.5	46
6	On infection	H	0.5×10^{-1}	41
6	On infection	S and R	0.5×10^{-1}	43
10	Controls	None	...	47
10	On infection	H	0.5×10^{-3}	41
10	On infection	H	0.5×10^{-4}	42
10	On infection	H	0.5×10^{-5}	41
10	On infection	H	0.5×10^{-6}	42
10	On infection	H	0.5×10^{-7}	42
10	Controls	None	...	43

* "H" refers to the Schering-Kahlbaum preparation; "S and R," to the Schmidt and Remsen preparation. Prophylactic and therapeutic injections were made subcutaneously into mice infected intraperitoneally with 10^{-7} cc. of sixteen hour blood broth culture.

This observation would indicate that the effective dose of sodium taurocholate is infinitesimal, not more than 0.00005 mg. per mouse. It is difficult to explain Stoeckel's results, but it is to be noted that he used only sixteen mice in his entire experiment and that of the treated animals only three of thirteen survived.

Theoretically it seems improbable that bile salt solutions such as Hilgermann's could have curative or prophylactic properties in streptococcic infections. It is well known that hemolytic streptococci are slightly if at all soluble in solutions of bile salts. Even assuming that a few strains might be bile soluble, the amounts of bile salt used would be much too small to effect solution and larger quantities would probably be toxic. In addition it must be remembered that the liver removes bile salts from the circulating blood very rapidly, and any sodium taurocholate injected would have slight opportunity of reaching streptococci in isolated lesions.

PURPURA HAEMORRHAGICA

WITH ESPECIAL REFERENCE TO PERMANENCE OF REMISSION FOLLOWING SPLENECTOMY

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AND
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In 1916 Kaznelson [1] reported the first splenectomy as a therapeutic measure in a case of idiopathic purpura haemorrhagica. Since then this procedure has been carried out in hundreds of cases and has become a standard practice in many clinics all over the world. Few persons doubt the effectiveness of this form of treatment in properly selected cases not only in rehabilitating those persons who are recurrently or chronically invalided but also in actually preserving the lives of some patients who suffer from acute hemorrhagic phenomena.

Splenectomy is still an empirical procedure, since the role of the spleen in the disease and the mechanism by which its removal causes remission are unknown. Until the fundamental nature of the condition is understood, the study of all its phases will continue to be of interest. One such phase pertains to the permanence of remissions produced by splenectomy.

One of us (T. W.) performed one of the first splenectomies, if not the first, for purpura in the western hemisphere. The case is still under observation and is presented here (case 1), together with five others in which operation was done more than ten years ago.

REPORT OF CASES

CASE 1.—This case was reported in 1923 by Bowen,[2] with follow-up records covering the first four months after operation.

J. S., a man aged 22, was admitted to the Buffalo General Hospital May 16, 1922. Abnormal bleeding was noticed first at the age of 4 years, after a laceration above the eye. At 5 he bled profusely when, during an attack of diphtheria, the membrane was pulled off. At 7 profuse bleeding followed adenoidectomy. At 11 he began to have jacksonian epilepsy associated with visual disturbances, localized occipital headache and partial paralysis. For the full eighteen years up to the time of hospitalization he had suffered from petechiae and ecchymoses of the skin and from epistaxis and recently he had suffered from hemorrhages from the bowel. Because of the symptoms his school life and later his work had been highly irregular. An acute exacerbation of bleeding phenomena began one week before admission.

Physical examination revealed extreme pallor, ecchymoses, old and new hemorrhages into the eye and exaggerated reflexes in the right arm. The lymph nodes and the spleen were not palpable.

Examination of the blood showed 1,648,000 erythrocytes, 18 per cent hemoglobin and 4,800 leukocytes, with 75 per cent polymorphonuclears, 18 per cent lymphocytes and 7 per cent monocytes. There were 2,500 platelets. The bleeding time was twenty minutes, the clotting time eight minutes and the clot nonretractile. Occult blood was found in the stool repeatedly.

During the interval between admission and operation (three months) he had one convulsive attack. He was given one blood transfusion, which was followed by clinical improvement. One month after admission a petechial eruption developed and the bleeding time was found to be two hours and twenty-five minutes. A few days later the spleen became palpable, and

From the Buffalo General Hospital and the University of Buffalo Medical School.

1. Kaznelson, P.: Verschwinde der hämorrhagischen Diathese bei einem Falle von essentialle Thrombopenia (Frank) nach Milzextirpation, Wien. klin. Wchnschr. **29**: 1451, 1916.

2. Bowen, B. D.: A Case of Chronic Purpura Haemorrhagica with Therapeutic Splenectomy, Bull. Buffalo General Hosp. **1**: 2, 1923.

still later there was bleeding from the gums and intestine. Splenectomy was performed August 28. Convalescence was accompanied with complete cessation of bleeding symptoms, except for one mild attack of epistaxis and ecchymosis two months after operation.

A few days after being discharged from the hospital he was readmitted with an attack of "catarrhal jaundice" from which he recovered. Shortly after this he secured a position as street-car motorman, which he held without interruption for eight years. Since then he has worked continuously as maintenance man for a real estate concern, doing various types of outdoor and indoor work, of which the major part is painting.

TABLE 1.—*Results of Blood Examinations in Case 1*

Date	Platelets	Bleeding Time (Minutes)	Comment
June 19, 1922	.....	145	
Aug. 28	.....	20	Before splenectomy
Aug. 28	2,500	..	After splenectomy
	17,000	..	2 hours after splenectomy
	22,000	..	4 hours after splenectomy
Aug. 29	190,000	4	22 hours after splenectomy
Aug. 30	230,000	..	
Sept. 6	608,000	3½	
Sept. 20	307,000	..	
Sept. 29	57,000	14	
Oct. 9	96,000	6	
Oct. 15	.....	..	Discharged from hospital
Nov. 3	20,000	70	Recurrence of bleeding
Nov. 11	.....	..	"Catarrhal jaundice"
Nov. 20	50,000	12	No bleeding
Dec. 19	85,000	8	
Dec. 9, 1926	232,000	4	
Mar. 26, 1932	233,000	6	
Apr. 29, 1938	176,000	1½	

Reexamination April 29, 1938, almost sixteen years after operation, revealed that except for the slight attack of bleeding one month after operation he had had no hemorrhagic symptoms since the splenectomy. In 1932 he had had his tonsils removed without difficulty. There had been no convulsive seizures of any kind, and paralysis had disappeared. Occasionally he had headaches similar to those which formerly occurred with the seizures. His vision was excellent in both eyes, but he noted spots before the right eye occasionally.

He was healthy appearing and muscular. The right fundus showed several small patches of retinal atrophy. The reflexes were normal and equal in the two arms.

CASE 2.—E. M., a married white woman aged 42, was admitted to the Buffalo General Hospital Jan. 22, 1926. The present illness began in October 1924 with an attack of "shingles," followed by multiple hemorrhages from the uterus and continuous bleeding from the gums of such severity that she often awoke at night with her mouth full of blood. There were almost daily epistaxis and the development of hemorrhagic spots in the skin varying in size from that of a pinhead to that of a pea. She lost strength and 15 pounds (6.8 Kg.) in weight. Spots appeared before her right eye and there was ringing in the ears.

TABLE 2.—*Results of Blood Examinations in Case 2*

Date	Platelets	Bleeding Time (Minutes)	Hemoglobin, %	White Blood Cells	Comment
Jan. 30, 1926	12,000	24	23	4,500	
Mar. 16	24,000	5½	33	2,600	After 4 transfusions
Apr. 10	25,000	5	52	2,200	6 hours after transfusion
Apr. 11	53,000	..	53	4,000	
Apr. 12	26,000	..	42	6,000	
Apr. 13	22,000	..	35	2,400	
Apr. 14	28,000	..	34	.....	
Apr. 21	43,000	..	38	4,400	

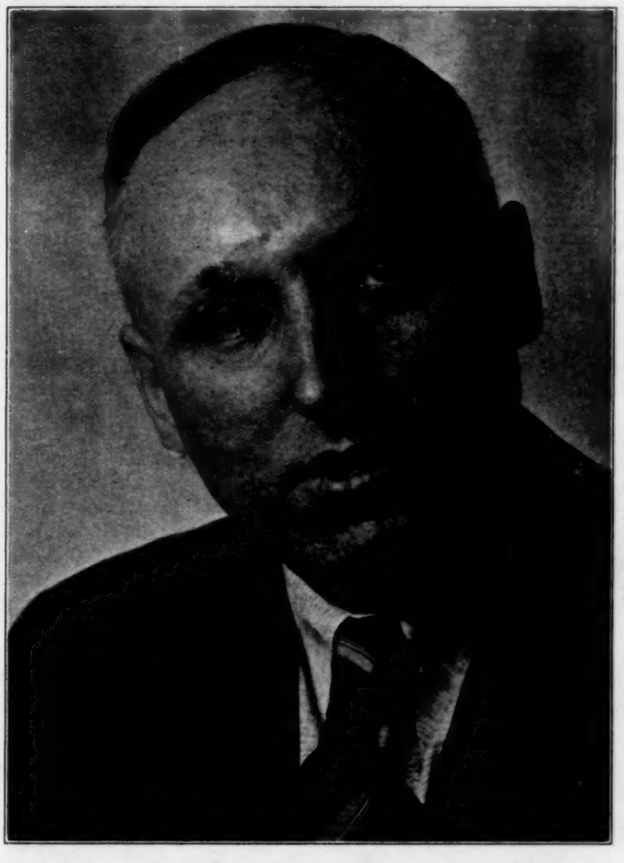
She had suffered from prolonged and profuse menstrual flow since puberty. She had borne three children. Hemorrhage had followed the last delivery. The last child suffered from frequent severe attacks of epistaxis and bled abnormally after trauma.

Examination revealed emaciation and marked pallor. The skin showed generalized purpura. Bleeding points were present in the gums. The lymph nodes and the spleen were not enlarged. No abnormality was found on pelvic examination to account for the bleeding.

Examination of the blood showed 820,000 erythrocytes, 23 per cent hemoglobin and 4,500 leukocytes, with 40 per cent polymorphonuclears, 58 per cent lymphocytes and 2 per cent monocytes. The bleeding time was twenty-four minutes and the clotting time one-half minute. There were 12,000 platelets, the urea nitrogen content was 29.4 mg. per hundred cubic centimeters and the serum bilirubin content was too low to estimate.

During the first ten weeks following admission she received nine blood transfusions. These were followed by subjective improvement, and bleeding from the gums and into the skin ceased. Uterine bleeding continued despite a uterine pack.

Splenectomy was performed April 10. Convalescence was uneventful except for mild uterine bleeding for five days. The patient was discharged from the hospital May 2, showing remarkable general improvement.



Patient 1 in 1938, fifteen and one-half years after splenectomy.

It has not been possible to obtain reports on the blood since she left the hospital. However, a recent report from her physician revealed the fact that there has been no marked recurrence of hemorrhagic symptoms.

CASE 3.—K. R., an unmarried white woman aged 26, admitted to the Buffalo General Hospital March 15, 1927, had always "bruised" easily. However, she was well until 1923, when her menstrual periods began to be prolonged and the flow profuse. In 1926 purpura, bleeding gums and marked increase in the menstrual flow developed. After that she complained of progressively increasing weakness and shortness of breath.

She was well developed and had marked pallor. No purpura was present. The gums bled easily on slight pressure. The lymph nodes were not enlarged and the spleen was palpable indistinctly.

Examination of the blood showed 1,600,000 erythrocytes, 27 per cent hemoglobin and 5,500 leukocytes, with 81 per cent polymorphonuclears and 19 per cent lymphocytes. There were 24,000 platelets. The bleeding time was prolonged, the clotting time normal and the clot nonretractile.

Two blood transfusions were given a week apart. There was general improvement, and except for an attack of gingival bleeding March 31 there were no hemorrhagic phenomena for about one month. However, uterine bleeding recurred. Ultraviolet irradiation had no effect on either the symptoms or the blood. Three transfusions at short intervals were followed by only slight amelioration of the bleeding.

Splenectomy was performed July 14. Except for an attack of pleurisy on the left side, convalescence was uneventful, and up to the present time there has been no single recurrence of abnormal bleeding.

TABLE 3.—*Results of Blood Examinations in Case 3*

Date	Platelets	Bleeding Time (Minutes)	Hemoglobin, %	Comment
Mar. 16, 1927	16,000	Prolonged	27	
Mar. 30	10,000	16	51	After 2 transfusions
Apr. 11	13,000	..	53	
July 11	65,000	Prolonged	55	After 3 transfusions
July 15	156,000	..	..	After splenectomy
July 16	309,000	..	..	
July 21	273,000	..	..	
Aug. 20	280,000	..	..	
Sept. 25	300,000	..	..	
Mar. 22, 1932	665,000	5	73	
Jan. 16, 1936	576,000	3½	98	
May 2, 1938	460,000	3½	96	

CASE 4.—E. K., a white boy aged 3 years, admitted to the Children's Hospital July 27, 1927, had been perfectly well until May 30, when he had a spontaneous profuse nosebleed lasting an hour. The second attack occurred a week later. This was followed by numerous attacks at short intervals. At this time large ecchymoses began to appear on slight trauma. A few days before admission he had three severe attacks of epistaxis in one day. Petechiae and hemorrhages from the mouth, intestine and bladder were not observed.

Physical examination revealed marked pallor and many large ecchymoses. No nasal lesion was found that could account for the recurrent epistaxis. The lymph nodes and the spleen were not enlarged.

Examination of the blood showed 2,520,000 erythrocytes, 55 per cent hemoglobin and 15,300 leukocytes, with 72 per cent polymorphonuclears, 23 per cent lymphocytes and 5 per cent monocytes. There were 3,000 platelets. The bleeding time was ten minutes, the clotting time five minutes and the clot nonretractile.

Epistaxis continued in the hospital, and splenectomy was performed August 3. Convalescence was uneventful and he was discharged August 29.

TABLE 4.—*Results of Blood Examination in Case 4*

Date	Platelets	Bleeding Time (Minutes)	Hemoglobin, %	White Blood Cells	Comment
July 27, 1927	3,000	10	55	15,300	
Aug. 3	.....	..	..	.....	Splenectomy
Aug. 4	5,000	10	..	.....	
Aug. 6	8,000	..	..	.....	
Aug. 8	19,000	..	..	.....	
Aug. 10	23,000	..	..	.....	
Aug. 12	15,000	8	..	.....	
Aug. 15	11,000	..	..	.....	
Aug. 23	None seen	..	60	15,000	
Sept. 1	22,000	..	..	.....	
Sept. 14	32,000	..	..	.....	
Oct. 20	377,000	3	..	.....	
Apr. 12, 1928	74,000	..	90	11,500	
Mar. 19, 1932	267,000	1	80	.....	
Jan. 9, 1936	164,000	4½	82	10,800	

Observations have been made at intervals after the operation and there has been no recurrence of bleeding. He is now a healthy, well developed boy of 14.

CASE 5.—I. P., a married white woman aged 30, was admitted to the Buffalo General Hospital April 9, 1928. This case was described by Kahn[3] in 1932, but follow-up notes were not included in his report.

Seven years before admission she bled continuously for eight weeks after childbirth. After that menstruation became irregular, prolonged and profuse. Severe epistaxis occurred one week before each period. Ecchymoses appeared after slight trauma. For about four months before admission these symptoms were exaggerated, and bleeding from the gums became severe. Roentgen treatment failed to control uterine bleeding.

Examination showed marked pallor, and purpuric spots were present on the left leg. The lymph nodes and the spleen were not enlarged.

Examination of the blood showed 2,330,000 erythrocytes, 25 per cent hemoglobin and 8,200 leukocytes, with 82 per cent polymorphonuclears and 18 per cent lymphocytes. There were 36,000 platelets. The bleeding time was twenty minutes and the clotting time three and one-half minutes.

The patient received one blood transfusion and other treatment to control the bleeding, with no effect. Splenectomy was performed April 17. Convalescence was stormy and complicated by pleurisy with effusion. However, all bleeding ceased, and she was discharged from the hospital May 28.

It has not been possible to obtain reports of the state of the blood since then, but at the time of writing the patient is known to be alive and well and to have had no recurrence of abnormal bleeding.

CASE 6.—J. R., a white girl aged 13, admitted to the Buffalo General Hospital April 24, 1928, had had bleeding symptoms for the first time five years previously, following scarlatina and measles. Since then there had been recurrent attacks of

TABLE 5.—*Results of Blood Examinations in Case 5*

Date	Platelets	Bleeding Time	Hemoglobin, %	White Blood Cells	Comment
Apr. 9, 1928	36,000	20 minutes	25	8,200	
Apr. 17	.....	...	..	.....	Splenectomy
Apr. 21	245,000	...	..	.....	
May 5	.....	...	50	14,800	Pleurisy
May 16	350,000	...	..	.....	

TABLE 6.—*Results of Blood Examinations in Case 6*

Date	Platelets	Bleeding Time	Hemoglobin, %	White Blood Cells	Comment
May 11, 1928	20,000	Very long	45	8,000	
May 19	.....	...	..	.....	Splenectomy
May 25	152,000	...	..	.....	
June 6	157,000	...	49	.....	
Mar. 4, 1932	225,000	...	80	.....	
Aug. 23, 1935	240,000	2½ minutes	90	.....	

epistaxis, bleeding gums and purpura. About one year before admission she underwent tonsillectomy and bled profusely. A short time after this her menstrual periods began; they were irregular and prolonged, and the flow was profuse.

The patient was well developed, with pronounced pallor. Petechial hemorrhages were present on the chest, abdomen and extremities. The gums were actively bleeding. The lymph nodes and the spleen were not enlarged.

Examination of the blood showed 3,580,000 erythrocytes, 45 per cent hemoglobin and 8,000 leukocytes. There were 20,000 platelets. The bleeding time was prolonged and the clotting time normal.

Preparations for splenectomy were begun at once, and after two transfusions the operation was performed May 19. Postoperative convalescence was uneventful, and there has been no recurrence of abnormal bleeding to date. Menstruation has been regular each month, each period lasting six or seven days, with light flow. The patient has led a normally active life, having finished school and undergone training as a nurse, with no loss of time because of illness.

SUMMARY AND COMMENT

In this paper we have reported the results of splenectomy in six cases of purpura haemorrhagica. The periods of postoperative observation have varied from ten to fifteen and one-half years. As far as can be determined, this group of patients has been followed longer than any group thus far reported. Only

3. Kahn, M. E.: Abnormal Uterine Bleeding in Blood Dyscrasias, J. A. M. A. **99:** 1563 (Nov. 5) 1932.

Whipple,[4] Geggie[5] and Giffin[6] have reported cases observed longer than ten years. However, records of some fifty-three cases observed from five to thirteen years were found. These included the cases just mentioned and those of Beneke,[7] Solway,[8] Myers[9] and Brown and Elliott.[10] This makes the total of cases observed from five to fifteen and one-half years about fifty-nine.

Although detailed records are not available, it would seem that in the great majority of these cases there was complete relief from symptoms and that the remissions were permanent to the end of the observation period. In the minority there were recurrences of hemorrhagic phenomena, usually of mild types. Only one case[6] was found in which severe bleeding occurred more than five years after splenectomy. It was that of a girl in whom severe metrorrhagia developed at the onset of puberty five years after splenectomy and after a long period of good health. This patient died.

Our series illustrates a few interesting and important points that have been mentioned by other writers. The first of these concerns the selection of cases for splenectomy. By far the best and most convincing results were obtained in cases in which the diagnosis of recurring idiopathic purpura haemorrhagica was unequivocal. This was true in cases 1, 3, 5 and 6. In these cases all evidence of history, physical examination and laboratory data supported the diagnosis. Recovery was characteristic and permanent. However, case 2 was atypical with respect to the age of the patient at the onset of illness, the comparatively short duration and the leukocyte picture. The patient recovered slowly and incompletely, and the platelets failed to increase in the characteristic manner. This is the type of case in which the decision to perform splenectomy is reached with some reluctance, as though the procedure is rather forced on the physician. Case 4 fails also to conform to the group of ideal cases, although the results were excellent. This was a case of juvenile purpura of short duration. What the end result would have been with more conservative treatment cannot be said. However, with increasing knowledge of this disease it has come to be recognized that a high proportion of affected children recover spontaneously. On the other hand, similar cases are known in which acute hemorrhagic phenomena developed and death followed in spite of heroic measures. It seems to us that the question of therapeutic indication in juvenile purpura is still unsettled and that there is much to be said for prompt splenectomy before the patient becomes a poor operative risk.

A second interesting point concerns the platelet response and associated phenomena in relation to splenectomy. Brown and Elliott[10] and others have described a platelet curve which has come to be regarded as rather typical. A sharp rise occurs usually within forty-eight hours, to reach a peak in about ten days. This is followed by a secondary fall, sometimes to a subnormal level, at which point a mild recurrence of bleeding is noted. In case 1 of the present series there was such a course, and we have observed this phenomenon in several more recent cases. However, it is not present in all. In some cases, for example case 3, the initial increase brings the platelet level within normal limits, where it is maintained without perceptible fluctuation for long periods. In others the initial rise is extremely slow (case 4). In a number of cases the platelet level has remained subnormal for months or years and yet no recurrence of bleeding has resulted. In most of these, other evidences of hemorrhagic diathesis, for example prolonged bleeding time, may be demonstrated.

In other words, the majority of typical cases of recurring purpura respond to splenectomy in a rather characteristic manner, but a minority do not. In spite of numerous suggestions with regard to prognosis and prevention of this unfavorable response, there seems to be no absolute method of foretelling the result in an individual case.

Brown and Elliott[10] described postoperative pulmonary complications on the left side in two cases. In the present series, patients 3 and 5 showed similar complications. In both the involvement seemed to be limited to the pleura, one having pain and friction rub and the other a large effusion.

CONCLUSIONS

1. Of six patients with purpura haemorrhagica observed from ten to fifteen and one-half years after splenectomy, all continue to be free from bleeding phenomena, and four of these are known to show normal platelet levels.
2. The best and most convincing results were seen when the preoperative diagnosis of recurring idiopathic purpura haemorrhagica was unequivocal.

4. Whipple, A. O.: Splenectomy as a Therapeutic Measure in Thrombocytopenic Purpura Haemorrhagica, Surg., Gynec. & Obst. **42:** 329 (March) 1926.
5. Geggie, C. G.: Essential Thrombocytopenic Purpura Haemorrhagica: A Report of Six Operative Cases, Canad. M. A. J. **35:** 651 (Dec.) 1936.
6. Giffin, H. Z.: Essential Thrombocytopenic Purpura, Internat. Clin. **4:** 95 (Dec.) 1936.
7. Beneke, cited by Whipple.[4]
8. Solway, L. J.: Thrombopenic Purpura: Report of a Case with Recovery Following Splenectomy, Canad. M. A. J. **30:** 637 (June) 1934.
9. Myers, Bernard: Essential Hemorrhagic Purpura, Proc. Inst. Med., Chicago **10:** 216 (Feb. 15) 1935.
10. Brown, D. N., and Elliott, R. H. E.: The Results of Splenectomy in Thrmobocytopenic Purpura, J. A. M. A. **107:** 1781 (Nov. 28) 1936.

THE RELATION OF THE PHYSICIAN TO THE TUBERCULOUS PATIENT

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The past decade can truly be called the beginning of a new era in collapse therapy in pulmonary tuberculosis. It is not my purpose at this time to enter into any discussion of the various forms of collapse now being utilized in the treatment of pulmonary tuberculosis but rather to dwell on and consider the psychologic and mental phase in the treatment of this disease.

In an analysis of records concerning patients discharged from the Hudson County Tuberculosis Hospital I noted that four times as many patients who were not receiving any form of collapse therapy signed a release as opposed to those who were. In an effort to ascertain the cause for this, three reasons presented themselves: (1) a feeling of well being, (2) conditions at home requiring their return to work, (3) the patient not sufficiently aware of the importance of bed rest in the treatment of tuberculosis and not educated properly as to the advantages of the sanatorium or hospital. With the knowledge in mind that a goodly number of the patients who signed a release in the past returned to the sanatorium with their lesion much more advanced in extent, and also remembering the definite danger that these patients present in carrying the infection to those with whom they might come into contact, we are

From the Tuberculosis Service of Dr. B. S. Pollak, Medical Director, Hudson County Tuberculosis Hospital.

attempting to guide our efforts toward the creation of a better understanding of each and every patient so that we may aid in directing them toward their goal of a life of usefulness to themselves and to society.

Many patients who are admitted to the sanatorium are not acutely ill and except for a slight cough or a sudden hemoptysis were not aware that anything was wrong with their physical condition. In the mass tuberculin testing that is now going on in various parts of the country, many cases of tuberculosis are being discovered that are entirely asymptomatic. I do not think it beyond the experience of every physician dealing with tuberculosis to say that in these patients, and especially in those who are the bread earners of a family, the news is received with some degree of shock. Especially is this true among those who recall stories of the fearful "consumption" and are not aware of what can be done today with most cases if obtained soon enough. I believe that the way a person is going to react to the knowledge that he has tuberculosis and will have to remain in a sanatorium for a long time depends on two factors: (1) his inherent characteristics, whether his tendency is toward an introvert or extrovert type, and (2) his station in life at the moment, whether or not he has any responsibilities, such as a family to support. It therefore behooves the physician, when he makes a diagnosis of tuberculosis, to study the type of patient that he has in hand. Especially is this true if he is going to treat the individual.

INTROVERTS AND EXTROVERTS

Jung has classified the human psychology into two groups: the introverts and the extroverts. Extroversion may be defined as the turning of an interest outward toward some object. Introversion, on the other hand, is a recession of interest from the object toward the subject or the contemplation of one's own thoughts and feelings. We do not believe that the tuberculous patients can be classified into these two groups as these represent the two extremes, but in each individual is the inherent tendency to lean more or less toward one or the other extreme. And when the individual develops tuberculosis that tendency becomes somewhat more manifest. I agree with Wolepor [1] in that we do not believe that there is any specific abnormal state in tuberculosis and that the neurasthenic manifestations encountered in tuberculous patients are not specific to tuberculosis alone but are the same as are not infrequently seen in individuals with any protracted illness. It is with the two extreme types and particularly with the introvert that the doctor must turn psychiatrist. For after all, as Noyes [2] defines it, psychiatry is "primarily concerned with the behavior of the human organism as a unitary system engaged in adjustment to its environment." That is exactly what the physician dealing with tuberculous patients must do: adjust and adapt them to their illness as close to the point of contentment as is possible, instilling within them the hope and certainty that they will soon recover and return to their former usefulness to society. In no other disease is this so important, for here the individual must be confined to a bed rest regimen for a number of months and he must be made to believe in the need for such treatment, and preferably in a sanatorium.

The extrovert is characteristically carefree and unconcerned about his condition. The problem that confronts the physician is to gain the confidence of the patient and to institute an educational program, explaining the need for prolonged treatment if the patient is to make satisfactory progress. Occasionally one will encounter a patient who does not understand the necessity for the need of intensive treatment. Here one must be frankly outspoken and attempt to show the patient what may happen if he fails to heed the physician's advice. The patient must be made to realize that he is a sick person in spite of his apparent well-being. He must be convinced of the fact that tuberculosis, when discovered early, may be easily controlled, whereas, when the disease is of a more advanced type, it is more difficult to obtain a satisfactory result. In order to obtain the full cooperation of the patient, it is essential that he be advised concerning the development and progress of the disease through the medium of educational propaganda, which must be conveyed to him in order that he may fully comprehend the significance of the entire situation. It is at this time that the physician in charge must make an indelible impression on his patient. An intelligent presentation of all details concerning the patient's particular involvement will in many instances mark the success or failure of the case in question.

It is with the introvert that we must use the greatest of discretion. He has kept his troubles to himself, for his best defense has been to keep his troubles hidden. It is this type of individual that should be prevailed on to share his innermost thoughts with the physician if the physician anticipates any results. He must not be allowed to become depressed, for I am convinced that a happy patient with a happy, healthy state of mind is a most desirable asset in fighting a chronic disease such as tuberculosis. On the other hand, I condemn the practice of minimizing a patient's lesion, such as diagnosing an infiltrate as a "bronchitis" so as to avoid any "embarrassment" to the patient. I only too often see patients who state that their physician, several months prior to admission, told them that they had a "little bronchitis" or a "tiny spot on the lung" and advised only a couple of weeks rest in bed. Such misleading statements or errors in diagnosis are just too frequent. However, when one has a patient in the sanatorium with the diagnosis of tuberculosis, in a certain few select cases I believe it perfectly justifiable to minimize somewhat the extent of the process. Those patients who are apprehensive and worried about themselves must be reassured and convinced that their trouble is not too far advanced and that with time they will recover. An attitude of optimism must be assumed by the doctor and imbued in the patient. I have noted in some of these cases that the mere mention of the word "cavity" has caused them to become panicky and apprehensive.

CASE 1.—T. O., a white man aged 35, was first admitted to the institution in February 1937 with a left sided pleurisy with effusion. Three years previously he had been treated medically for a mild hyperthyroid state with apparently good results. The fluid was aspirated on one occasion, a clear straw-colored fluid being obtained with no underlying parenchymal lesion noted on x-ray examination and after two months he was discharged. At that time it was seen that he was quite apprehensive and nervous but the knowledge that he had no definite pulmonary lesion soon cheered him. Following discharge he returned every three months for check-up and x-ray examination. In May 1938 a roentgenogram showed a small cavity in the right infraclavicular region, for which he was hospitalized. In view

1. Wolepor, Ben: The Mind and Tuberculosis, Am. Rev. Tuberc. **19**: 314 (March) 1929.
2. Noyes, A. P.: Modern Clinical Psychiatry, Philadelphia, W. B. Saunders Company, 1934.

of his previous mental state and his fear of tuberculosis, he was told that he had an infiltrative lesion in his lung which required hospitalization. Pneumothorax was attempted but no free space was found. During all this time he had occasional "spells" of depression when he would become deeply concerned about his general health, but a few words of encouragement would soon put him at ease. One day, while talking to one of the nurses, he learned that he had a cavity in his lung and a dramatic change took place. He became exceedingly despondent, his appetite became poor and his entire demeanor was that of a "lost man." It was only after repeated talks with him, in which the size of the antrum was greatly minimized and evidence presented that a cavity could heal, that he was made to return to a more cheerful state of mind with the hope of recovering completely.

Here was a patient who was in the hospital and who was apprehensive and nervous about his physical condition, but who at the same time was most cooperative. In this type of individual I feel justified in minimizing the extent of the lesion, as long as it makes the patient maintain a cheerful and hopeful outlook and he continues to be cooperative.

ATTITUDE OF THE PHYSICIAN

I believe it wise, when making staff rounds, not to discuss the progress of the case in front of the patient, except in the form of encouragement, as the patient will listen intently and invariably misinterpret every statement. The physician should devote as much time as possible to obtain a sympathetic understanding with the patient and discuss at length any problem that may be brought up, no matter how trivial it may seem. These individuals should be encouraged to keep interested in the news of the day and I heartily endorse the widespread use of the radio. Its effects on the well-being of the patients have been so encouraging that in the new Hudson County Tuberculosis Hospital, which is now ready for occupancy, every bed is supplied with an individual ear-set, so that a patient may have the choice of listening to one of four different programs without in any way interfering with the other patients in the ward, should they desire to listen to another station or take a nap.

We have noted in a number of cases, especially of the introvert type, that, when pneumothorax is attempted and found to be ineffective because of an obliterative pleuritis, the patients will become despondent and feel that their only chance for recovery is lost. We have pretty well obviated this apparent setback by thoroughly explaining to them when pneumothorax is suggested that this procedure is merely an adjunct in the treatment of tuberculosis; that they will improve with bed rest alone, but that if pneumothorax is tried and proved to be successful it will help to rest the lung a little more and tend to hasten the recovery. But by no means is the thought conveyed that it is the treatment *par excellence*. In every ward in the sanatorium there must be one or more patients on a bed rest regimen who are improving. Pointing these patients out to the new arrival on whom pneumothorax has been tried unsuccessfully will do much in reassuring them.

In a sanatorium one constantly has to contend with requests from patients to be discharged. Particularly is this true among those who are on bed rest and are getting along fairly well. They feel that they can return home and continue with the same sort of treatment. With a very few exceptions I have found this not to be true. The majority of those who sign a release become careless about carrying out the fundamentals of the treatment and soon have to return because of reactivation of the lesion. This group presents a real problem not only to themselves but to the others with whom they come in contact. It is with this group that the physician must become frank and outspoken and stress the dangers involved. To obtain the cooperation of the patient and to have him fully comprehend the significance of his intentions, it frequently will be beneficial to cite as an instance the individual with whom the patient is familiar, who, for the reason of having refused advice, had to return with an advanced lesion. The earnestness and sincerity with which such statements are submitted to the patient will frequently have such a desired effect and persuade the patient to remain. The patient must be made to realize the seriousness of his disease. He must be made to realize that his ultimate recovery depends entirely on the extent of his cooperation with the physician.

One thing must be emphasized to all tuberculous patients, that rest means not only physical rest but also mental rest and that one cannot be subordinated to the other. The object of physical rest is to diminish the work of the lungs by diminishing the number and extent of the respiratory excursions. Yet, what good is such physical rest if the patient maintains a state of high nervous tension as seen in the neurasthenic type of individual? It is not infrequently noted that patients with extensive pulmonary involvement who are cheerful and mentally stable show a favorable progress. Ishigami [3] explains this on the presence of a comparatively high opsonic index. On the other hand, patients with neurasthenic tendencies showed a lowering of their opsonic during the period of mental upset with systemic upset and general decline.

MEMBERS OF THE FAMILY

The tuberculous person must be shielded from the cares and responsibilities of home and business and I have had, time and time again, to caution friends and members of the family from bringing any news to the patient which may in any way disturb him. Because of this I feel that, whenever feasible, sanatorium care for the patient is the desirable thing, for here the individual is more or less isolated from home influences, which, although well meant, are not always to the patient's best interests and, in addition, he is under constant supervision with the knowledge that he is in the same hospital with a number of others similarly afflicted and all having the same goal. Also, from a public health standpoint, his chances of spreading his infection are minimized.

CASE 2.—R. V. B., a white woman aged 21, a secretary, was admitted to the Tuberculosis Service of the Jersey City Medical Center Nov. 6, 1937. Prior to her admission she had been treated at another institution, where pneumothorax had been started on the right side May 17 and on the left side on June 15, 1937. Refills had been continued on the right side up to the time of her admission but had been discontinued on the left side November 6 because of an adherent pleuritis over the cavity-bearing left upper lobe with a tiny residual pneumothorax pocket over the lower lobe. The right lung showed a 35 per cent selective collapse over the upper lobe with an antrum measuring 2 cm. in diameter in the upper lobe area.

It was noted that during the first three days the patient was extremely despondent with persistent nausea, anorexia and frequent crying spells. After many attempts she was finally prevailed on to unburden herself and she stated that a physician had told her that her left lung was "shot" and that nothing

3. Ishigami, Tohru: The Influence of Psychic Acts in the Progress of Pulmonary Tuberculosis, Am. Rev. Tuberc. **2**: 470 (Oct.) 1918.

could be done for her, so that pneumothorax had been discontinued. Her father yielded the information that, since being told, she had become greatly depressed and appeared to be much worse. At the staff conference it was decided to continue with the pneumothorax on the right side for the sake of reinstilling in her the hope for some recovery, although it was felt that her ultimate prognosis was poor. Slowly but surely, by frequent visits and talks to the patient, she was finally made to realize that her left lung was not completely "shot" and that pneumothorax was not essential for recovery from tuberculosis. To illustrate the point more vividly, several patients on whom pneumothorax had been attempted but no free space obtained and who were recovering were brought to her bedside and shown to her to prove that a bed rest regimen could be sufficient to heal a lesion. The change in her during the next few days was remarkable. She became cheerful and her appetite slowly improved. The true state of affairs was presented to her father and he was warned against revealing this information to her. She got along fairly well as time went on and the cavity on the right side gradually closed. In May 1938 she received a letter from her sister telling her that she had heard that the pneumothorax on the right was going to be discontinued as it was ineffective. This was practically equivalent to pronouncing a death sentence on her, for she lapsed into a state similar to the one she was in when she was first admitted. This statement was entirely erroneous as we had no idea of doing this, but we reasoned that the father had revealed the true state of affairs to the "indiscreet" sister, who in part misinterpreted the statement to mean that we were going to discontinue the treatment on the right side. She was called in and the patient was finally convinced that her sister had been misinformed. She soon returned to her normal self and at the present time is one of the most cheerful patients in the hospital with as much hope as any of them.

In conclusion, I would make a plea for a more rational attitude toward the tuberculous patient, one of optimism and hope, for with both of these we shall find our task in combating this disease a much easier, happier and more fruitful one.

THE EFFECT OF NONSPECIFIC OPERATIONS ON ESSENTIAL HYPERTENSION

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Investigation of the literature on the operative therapy of essential hypertension indicates inadequate use of control studies. This is especially significant in relation to the question of whether nonspecific surgical measures influence hypertensive disease.

In 1930 Ayman [1] evaluated the therapeutic results in cases of essential hypertension by interpreting symptomatic relief. He stated that the successful treatment of essential hypertension by the use of many different drugs and methods of treatment has been reported at least 200 times in the decade 1920 to 1930. Since then an equal number of new types of treatment for essential hypertension have been introduced, many enthusiastically. They stay momentarily and then rapidly wane into obscurity.

At present a constantly increasing number of operations are being proposed and performed as treatment for essential hypertension.[2] We have analyzed these with the results published and, as Ayman [1] found previously, noted that the articles dealing with the surgical treatment of essential hypertension exhibit certain common features:

1. Complete or partial symptomatic relief is reported.
2. A moderate and occasionally a marked reduction in blood pressure is reported.
3. The degree of symptomatic relief is generally greater than the degree of reduction in blood pressure.
4. The degree of symptomatic relief is frequently out of all proportion to the reduction in blood pressure.
5. Marked symptomatic relief sometimes occurs without any reduction in blood pressure.

TABLE 1.—*Age Groups*

Ages	No. of Cases	Per Cent
21-30	3	11.1
31-40	9	33.3
41-50	10	37.1
51-60	4	14.8
61-70	0	0.0
71-80	1	3.7
Totals	27	100.0

TABLE 2.—*Sites of Nonspecific Surgical Measures*

Site	No. of Cases
Pelvis	16
Prostate	3
Appendix	3
Gallbladder	2
Thyroid	2
Hernia	1
Hemorrhoid	1
Total	28

This report presents a comparison between the results of nonspecific surgical measures (e. g. hysterectomy, cholecystectomy, prostatectomy) and specific measures (e. g. extensive sympathectomy, splanchnic nerve resection, celiac ganglionectomy) performed on patients with essential hypertension. During the past nine years 1,500 cases of hypertensive heart disease have been studied. In fifty-two of these, various operations had been performed during the precardiac stage.

Of the surgical cases, twenty-seven are suitable for analysis. A total of twenty-eight operations were carried out. None of these were performed as direct treatment of the essential hypertension; they were incidental to it. However, many patients refused the necessary surgical measures because of their hypertension until, in an effort to gain consent, it was explained to them that operation might help their high blood pressure. There was no proved basis for this statement. It was used only as a means to attain an end, the operation being urgently indicated at the time.

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1. Ayman, David: An Evaluation of Therapeutic Results in Essential Hypertension: The Interpretation of Symptomatic Relief, J. A. M. A. **95**: 246-249 (July 26) 1930.

2. These have been described by:
DeCourcy, J. L.; DeCourcy, Carroll, and Thuss, Otto: Subtotal Bilateral Suprarenalectomy for Hypersuprarenalism (Essential Hypertension), J. A. M. A. **102**: 1118 (April 7) 1934.
Craig, W. McK., and Brown, G. E.: Unilateral and Bilateral Resection of the Major and Minor Splanchnic Nerves: Its Effects in Cases of Essential Hypertension, Arch. Int. Med. **54**: 577 (Oct.) 1934.
Page, I. H., and Heuer, G. I.: Treatment of Essential and Malignant Hypertension by Section of Anterior Nerve Roots, Arch. Int. Med. **59**: 245 (Feb.) 1937.
Allen, E. V., and Adson, A. W.: The Physiological Effects of Extensive Sympathectomy for Essential Hypertension, Am. Heart J. **14**: 415 (Oct.) 1937.
Page, I. H.: Medical Aspects of Surgical Treatment of Hypertension, J. A. M. A. **110**: 1161 (April 9) 1938.
Crile, G. W.: The Clinical Results of Celiac Ganglionectomy in the Treatment of Essential Hypertension, Ann. Surg. **107**: 909 (June) 1938.
Allen, E. V., and Adson, A. W.: Physiologic Effects of Extensive Sympathectomy for Essential Hypertension: Further Observations, Ann. Int. Med. **11**: 2151 (June) 1938.

All the patients except patient 21 were operated on in the Cook County Hospital. Later they returned to the hospital when congestive heart failure or other manifestations occurred. All deaths and autopsies listed took place in the Cook County Hospital. A record was kept of the preoperative and postoperative blood pressure, the type and duration of symptoms, how long the patient was symptom free postoperatively, the blood pressure when he was last seen and the outcome. Cases were not selected. We had no part in obtaining consent for operation, surgical planning or after-care in the majority of these cases. Our observations were routine studies of the factors which influence the course of hypertensive heart disease.

There were fifteen white (nine female and six male) and twelve Negro (ten female and two male) patients in this series. The ages varied from 26 to 72 years at the time of operation. Twelve (44.4 per cent) were under 40 and twenty-two (81.5 per cent) under 50 (table 1).

TABLE 3.—*Effects of Nonspecific Surgical Measures on Essential Hypertension*

				Blood Pressure				Last Postoperative Examination		
Case	Age	Sex	Race	Pre-operative	Post-operative	Type of Operation	Effect on Symptoms	Period Since Operation	Blood Pressure	Comment
1	30	♀	N	200/130	140/90	Supracervical hysterectomy	Symptom free 7 yr.	8 yr.	130/110	Died at 38 of congestive heart failure
2	44	♀	N	190/130	136/94	Hysterectomy	Symptom free 2 yr.	5 yr.	224/112	Decompensated when last seen, 5 years after operation
3	29	♀	N	240/180	170/110	Salpingectomy, appendectomy	Symptom free 6 yr.	6 yr.	230/170	Died at 35 in terminal uremia
4	40	♀	N	220/170	160/120	Hysterectomy	Symptom free 7 yr.	8 yr.	218/150	Decompensated when last seen, 8 years after operation
5	38	♀	N	204/150	158/92	Oophorectomy, appendectomy	Symptom free 4 yr.	5 yr.	190/130	Failure of left side of heart when last seen, 5 years after operation
6	34	♀	N	230/130	188/116	Hysterectomy	Symptom free 6 yr.	8 yr.	230/140	Decompensated when last seen, 8 years after operation
7	35	♀	N	214/150	146/108	Hysterectomy	Symptom free 3 yr.	5 yr.	200/140	Decompensated when last seen, 5 years after operation
8	34	♀	N	200/120	170/104	Panhysterectomy	Symptom free 2 yr.	3 yr.	210/110	Died at 37 in terminal uremia
9*	38	♀	N	240/180	190/120	Panhysterectomy	Symptom free 3 yr.	4 yr.	200/140	Died at 42 in terminal uremia; autopsy showed malignant nephrosclerosis
10*	38	♀	N	260/190	180/130	Panhysterectomy	Symptom free 1 yr.	2 yr.	244/170	Died at 40 in terminal uremia; autopsy showed malignant nephrosclerosis
11	41	♂	N	230/160	168/104	Bilateral herniotomy	Symptom free 8 months	1 yr.	240/150	Return of all symptoms when last seen, 1 year after operation
12	54	♂	N	210/130	140/96	Prostatectomy	Symptom free 2 yr.	5 yr.	190/110	Decompensated when last seen, 5 years after operation
13	50	♀	W	160/110	120/82	Cholecystectomy, appendectomy	Symptom free 6 yr.	8 yr.	140/110	Return of all symptoms when last seen, 8 years after operation
14	36	♀	W	220/150	188/110	Oophorectomy, appendectomy	Symptom free 3 yr.	8 yr.	200/120	Died at 44 of congestive heart failure
15	43	♀	W	170/120	138/88	Thyroidectomy	Symptom free 5 yr.	11 yr.	200/110	Died of congestive heart failure, confirmed at autopsy, at 54
16	26	♀	W	220/160	180/120	Oophorectomy, appendectomy	Symptom free 5 yr.	6 yr.	170/110	Died at 32 in terminal uremia; autopsy showed arteriosclerosis and arteriolosclerosis of kidneys
17	59	♀	W	230/150	160/110	Panhysterectomy	Symptom free 4 months	7 months	210/130	Decompensated when last seen, 7 mo. after operation
18	49	♀	W	166/110	120/74	Hysterectomy	Symptom free 9 yr.	12 yr.	228/124	Decompensated when last seen, 12 years after operation
19	52	♀	W	178/108	134/80	Appendectomy	Symptom free 3 yr.	4 yr.	180/110	Died at 56 of congestive heart failure
20	43	♀	W	260/170	190/120	Hysterectomy	Symptom free 2 yr.	3 yr.	280/166	Return of all symptoms when last seen, 3 years after operation
21	40 49	♀	W	170/112 186/118	140/80 150/102	Thyroidectomy Vaginal hysterectomy	Symptom free 2 yr. Symptom free 18 months	2 yr.	170/104 180/110	Return of all symptoms 2 years after first operation until second operation 9 years later; symptom free to date
22	57	♂	W	200/130	160/110	Prostatectomy	Symptom free 5 yr.	6 yr.	210/120	Failure of left side of heart when last seen, 6 years after operation
23	49	♂	W	180/120	136/78	Appendectomy	Symptom free 3 yr.	5 yr.	164/118	Decompensated when last seen, 5 years after operation
24	47	♂	W	250/160	186/106	Appendectomy	Symptom free 6 yr.	6 yr.	270/170	Died of congestive heart failure at 53
25	44	♂	W	160/110	128/68	Hemorrhoidectomy	Symptom free 4 yr.	5 yr.	170/120	Failure of left side of heart when last seen, 5 years after operation
26	72	♂	W	190/130	150/100	Prostatectomy	Symptom free 6 yr.	7 yr.	150/112	Decompensated when last seen, 7 years after operation
27	45	♂	W	220/150	170/120	Cholecystectomy, appendectomy	Symptom free 3 yr.	4 yr.	200/112	Decompensated when last seen, 4 years after operation

* Malignant hypertension proved by autopsy.

The seven general types of operation performed are indicated in table 2. Sixteen patients (59 per cent) had pelvic operations, mainly hysterectomy or panhysterectomy for large fibroids alone or combined with diseased ovaries and fallopian tubes.

The preoperative and postoperative blood pressures are indicated in table 3. Reductions were common but in no way related to the amount of symptomatic relief.

All patients were relieved of symptoms such as headache, pain in the chest, "nervousness," dizziness, fatigue, insomnia and palpitation, regardless of the type of operation performed.

The duration of the symptom-free stage varied from four months to nine years, averaging three and one-half years (table 4). As far as can be determined, the results were better in our cases than in any of the specific operations for essential hypertension. Yet our patients were certainly not operated on primarily for the essential hypertension. Any of the claims made for the efficacy of treatment of essential hypertension by specific surgical measures can be substantiated by our cases of nonspecific operation. It is contended that if a patient is able to return to his former occupation—if he is relieved of his subjective symptoms—that and that only determines the value of the operation. Our patients had at least seven different types of operation and obtained the same results. While enforced bed rest, operative hemorrhage, anesthesia, operative insult and traumatism and the administration of sedative drugs are common factors in both nonspecific and specific surgical procedures which possibly influence hypertension, we believe our results prove what Ayman [1] showed clearly, that the symptoms associated with uncomplicated essential hypertension may frequently be relieved by the suggestion inherent in any seriously and enthusiastically prescribed drug or means of therapy.

TABLE 4.—*Duration of Symptom-Free Stage*

Years	No. of Cases
Less than 1	3
1 to 2	6
3	6
4	2
5	3
6	5
7	2
9	1
Average, 3½	Total, 28

SUMMARY

The symptomatic relief and reduction in blood pressure resulting from nonspecific surgical measures (e. g. hysterectomy, prostatectomy, cholecystectomy) in the presence of essential hypertension are similar to and sometimes better than those obtained by specific procedures (extensive sympathectomy, splanchnic nerve resection, celiac ganglionectomy) performed especially for those purposes in the treatment of essential hypertension. The evidence presented justifies doubt of the indications for specific surgical treatment of essential hypertension and the results obtained from it.

Manson's Fortune Diminished Rapidly.—At the end of 1889 Manson returned to Scotland, where he had acquired an estate in the vicinity of his birthplace, and where he intended to pass the remainder of his days as a man of leisure; but luckily for posterity, fate had it otherwise. The large fortune that he had accumulated rapidly diminished in the face of the falling value of the Chinese dollar, so that in the ensuing year he was forced to begin work again, and descending upon London, he commenced a consulting practice at 21 Queen Anne Street. Although his reputation had been unequalled in the East, he found that it was not so easy to commence an uphill struggle at 46 years of age; but soon his connection began, and it was not long before he was appointed a physician to the Seamen's Hospital Society, with charge of beds in the Dreadnought Hospital at Greenwich.—Power, Sir D'Arcy: British Masters of Medicine, Baltimore, William Wood & Co., 1936.

Clinical Notes, Suggestions and New Instruments

SUBSEQUENT HISTORY OF A NEEDLE BROKEN OFF AND LOST IN THE UTERINE WALL DURING AN EMERGENCY OPERATION

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Now and then a needle breaks off during an operation. As a rule, it is possible to recover the broken portion and remove it; sometimes it cannot be found.

In the case here reported a right tubal pregnancy had been removed. A few months later the patient was hurriedly admitted to the hospital and at once operated on for a rupture of the uterus during early pregnancy.

On account of the patient's alarming condition, quick action was necessary. During closure of the ruptured uterine wall the greater portion of a curved needle broke off and was lost in the wall of the uterus; it could not be located.

It was necessary to get the patient off the table at the earliest possible moment. The tear in the uterine wall was sutured and the abdomen closed.

The subsequent history of the needle is an interesting one.

REPORT OF CASE

First Admission.—M. McF., a Negress aged 22, was admitted to the Johns Hopkins Hospital Nov. 10, 1934, complaining of vaginal bleeding for seven weeks, abdominal pain, weakness, nausea and vomiting. She had menstruated normally from Aug. 20 to 23 and from Sept. 15 to 18, 1934. The history and results found on examination were typical of a ruptured tubal pregnancy on the right side. Immediate operation (performed by Dr. Erle Henriksen) confirmed this. A large, rather old pelvic hematoma was found in which the right tube and ovary were involved. Right salpingo-oophorectomy was done, the cornual portion of the tube being excised from the uterus with a small wedge of surrounding tissue. This defect was closed with figure of eight sutures of no. 2 plain catgut (fig. 1), and the right round ligament was used to cover the raw surface according to the Coffey technic. Convalescence was uneventful and the patient was discharged in good condition November 22.

Course.—For nearly three months the patient had been feeling well and returned to the outpatient clinic Feb. 18, 1935, for a follow-up examination. At this time she stated that she had menstruated normally from Dec. 13 to 18, 1934, and from Jan. 14 to 17, 1935, and was then several days past the expected date of her menstrual period. For three weeks she had had slight pain in the left lower quadrant of the abdomen. Examination revealed no abnormalities except the absence of the right adnexa. She returned March 2 stating that the abdominal discomfort persisted although it was never severe. There were no signs of pregnancy at this time, but on March 11 the uterus was found to be about twice the normal size and was firm; some tenderness was present in the left adnexal region but no masses were palpable. There had been no vaginal bleeding since her last menstrual period January 14. A possible tubal pregnancy on the left side was suspected, although an intra-uterine pregnancy seemed more likely, and nothing was evident to contraindicate continued observation in the outpatient department after she had been warned of more acute symptoms. She returned one week later, March 18, saying that sharp pains had been experienced in the left lower quadrant the day before, at which time she was nauseated and vomited. Examination was made and revealed tenderness in the left lower quadrant of the abdomen; the cervix was a little soft; there was no vaginal bleeding; the uterus was symmetrically enlarged, two and a half times its normal size; there was tenderness but there were no masses in the region of the left tube and ovary. Intra-uterine pregnancy was the impression at this

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time. The patient left the examining table, dressed and was about to leave the clinic when she felt dizzy and weak, complained of a sudden, sharp pain in the upper part of the abdomen, and fainted.

Second Admission.—The patient was immediately admitted to the ward from the outpatient clinic March 18 with the tentative diagnosis of a ruptured left tubal pregnancy. The pulse was rapid, with a rate of from 130 to 140 a minute, and of poor quality; respirations were rapid and shallow. The abdomen was

Fig. 1.—Appearance of the right uterine cornu after removal of a right tubal pregnancy.

distended. There was generalized abdominal tenderness and muscle spasm and definite evidence of intra-abdominal free fluid. The usual treatment for shock was immediately administered. She was prepared for operation as quickly as possible.

Operation (performed by Dr. Thomas Cullen).—Under gas-ether anesthesia a paramedian incision in the lower part of the abdomen was made. Between 1,500 cc. and 2,000 cc. of fresh blood was free in the abdominal cavity. The left tube and ovary were normal. The uterus was symmetrically enlarged and soft, corresponding to a pregnancy of two or three months. There was a large rupture beginning at the right cornu, extending downward from 4 to 5 cm. in the lateral wall of the uterus through which placental tissue and fetal membranes protruded from the uterine cavity (fig. 2). The bleeding vessels were immediately controlled, edges of the tear were excised and a portion of the placenta was removed with blunt forceps. The fetus was not encountered. The laceration was repaired with several figure of eight sutures of plain catgut. In an attempt to control a small amount of bleeding from a needle hole in the uterus a small Ferguson needle was broken. About three fourths of the needle was left in the myometrium, as the patient's condition did not allow time for further search. As stated before, the right tube and ovary had been removed previously. The proximal end of the round ligament, which had been severed from the uterus, was again sutured to the region of the right cornu. A large quantity of free blood was sponged from the abdominal cavity and the wound was closed in layers without drainage.

Pathologic Report.—The tissue removed for study consisted of parts of grossly normal appearing placenta with attached membranes and small pieces of myometrium which had been trimmed away from the edges of the laceration. Microscopic examination revealed normal placental tissue corresponding to a pregnancy of two or three months. The myometrium was interesting in that small areas of scar tissue were visible in addition to rather deep penetration of the trophoblastic tissue into the uterine wall. The outer, uninvaded smooth muscle was not more than 5 mm. in thickness.

Course.—During and after the operation 5 per cent dextrose was given intravenously, this being followed by a transfusion of 500 cc. of citrated blood. Gradual improvement followed. The hemoglobin determination, which had been 48 per cent (Sahli) on admission, had risen to 65 per cent the following day. Moderate vaginal bleeding persisted, and in view of this a light curettement was done April 8, very little tissue being obtained. After this vaginal bleeding was diminished her general condition was good, and on April 10 she was discharged after receiving contraceptive advice.

The vaginal bleeding ceased several days after discharge from the hospital. She returned to the outpatient clinic May 2, bringing with her the part of the needle which had broken off in the myometrium during the operation, stating that this had passed by the vagina without pain the day before. There were no complaints. Examination revealed the uterus normal

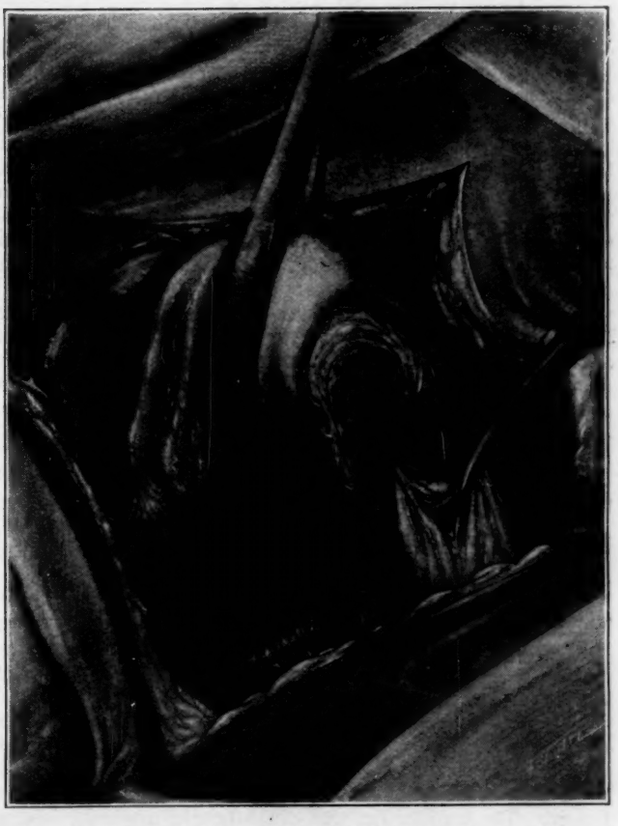

Fig. 2.—Rupture of the right side of the uterus during an early pregnancy, occurring a few months after removal of a right tubal pregnancy. Forceps pulling away some of the fetal membranes.

in shape, size and position though somewhat adherent. The left ovary was of normal size and slightly adherent and was not tender. Her condition was quite satisfactory when she was last seen.

This was a most happy termination of what might have been a difficult problem. We have no record of a similar case having ever been observed in the Johns Hopkins Hospital.

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THE USE OF RABBIT ANTIPNEUMOCOCCUS SERUM IN THE TREATMENT OF ULCUS SERPENS

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For years the more commonly accepted methods of treatment of ulcus serpens have been chemical disinfection, curettage, cautery by physical or chemical means, and a variety of surgical measures. Specific serum therapy has never been widely acclaimed, those using it having reported indifferent results.

Cheney [1] in 1922 voiced the opinion of most ophthalmologists by citing the failure of serum therapy on two counts: 1. In the majority of cases the pneumococci isolated from corneal ulcers were not suitable for serum therapy. At that time the only available potent antiserum was for the type I pneumococcus. In his series of twelve cases "group IV" pneumococci, for which no antiserum was available, were the usual organisms cultured. In reviewing the literature Newman [2] collected 131 cases of ulcus serpens. In only five was the condition caused by type I, and in ninety-seven it was caused by "group IV." 2. Owing to the avascular character of the cornea, serum administered intravenously could hardly be expected to penetrate it and influence the process.

Since the work of Cooper in subdividing the old pneumococcus "group IV" it has been possible to type the pneumococci obtained from such corneal ulcers. Originally "group IV" was subdivided into twenty-nine types. The evidence at present, however, indicates that type VI is similar to type XVI and type XV to type XXX. They may be typed by the Neufeld technic [3] in the manner that is used for the typing of pneumococci in the sputum. Specific rabbit pneumococcus antiserum for typing is now available in practically all portions of the United States. Recently this serum has been introduced for clinical use in the treatment of pneumonia caused by several different types of pneumococci, and more types are gradually being included. For experimental use it is available for the treatment of nearly every type. Rabbit pneumococcus antiserum offers the possibility of usefulness in the treatment of pneumococcic ulcers of the eye because of the smaller molecule of the rabbit antibody as compared with that of the horse antibody, and the higher antibody titer of rabbit antiserum as compared with that of horse antiserum. Because of its small size the rabbit antibody molecule appears to be able to penetrate more freely into inflammatory areas than does the horse antibody. This thought has been given some support by the studies of Horsfall and his associates.[4] If this is true, one of Cheney's objections is partially overcome.

REPORT OF CASE

F. S., a Negro aged 87, was admitted to the ophthalmologic service of the Hospital of the University of Pennsylvania June 1, 1938, giving a history of injury to his left eye by a twig while he was trimming a hedge on May 19. The following day considerable pain and lacrimation had been noted, which had persisted up to the admission to the hospital. The history and systemic review were of significance only in that he had been suffering gradual loss of vision for the past two years.

Physical examination gave essentially negative results aside from the ocular condition.

The right eye was normal except for an incipient senile cataract, giving 9/15 vision with a pinhole. The left eyelids were slightly swollen and marked blepharospasm was exhibited. A small amount of purulent discharge exuded from the palpebral fissure. The conjunctiva was diffusely and markedly injected and slightly chemotic. A rather deep and sharply excavated round corneal ulcer 3 mm. in diameter was seen over the pupillary area to the temporal and inferior side. Its center was stained brown by mild protein silver, which his family physician had prescribed. The nasal margin was undermined and grayish. A hypopyon of 1 mm. was present. The aqueous humor exhibited a marked flare. The pupil was miotic and fixed. The lens was cataractous, the vision being limited to perception of light. No discharge could be expressed from the nasolacrimal duct.

On admission, after material for cultures had been taken from the culdesac and the ulcer, treatment was immediately started with 1 per cent atropine twice daily, hot compresses and irrigations with mercurophen (sodium oxymercury orthonitrophenolate) 1:12,000 as frequently as needed to keep the eye free from discharge. One cc. of Pregl's iodine solution was injected subconjunctivally below the cornea. The nasolacrimal duct was irrigated and found to be patent. The ulcer during three days of this therapy spread, advancing nasally and downward. The hypopyon fluctuated from 1 to 2 mm. The cultures of material from the ulcer and culdesac were reported at this time as positive for type XXIII pneumococci, so the patient was given instillations of ethylhydrocupreine (optochin) hydrochloride 2 per cent aqueous solution four drops four times daily, since no specific serum could be obtained. This therapy was continued for two days, during which time the spread of the ulcer continued unabated. Then, five days after admission, an adequate supply of type XXIII antipneumococcus rabbit serum was made available, enabling us to discontinue the ethylhydrocupreine. Forty-nine thousand units of antiserum was given during the first twenty-four hours, 30,000 units intravenously, 15,000 units by instillation (one drop every fifteen minutes) and 4,000 units subconjunctivally. At the end of this time the ulcer looked distinctly cleaner and no increase in size was noted. There was little local reaction to the subconjunctival injection of antiserum. From this time on improvement continued, and four days after the giving of serum was started the ulcer began to epithelize from the temporal margin and the hypopyon disappeared. The patient was given daily injections of antiserum intravenously for four days, and then medication was stopped, a total of 134,000 units having been given by this route. One more injection June 8 of 2,000 units made a total of 6,000 units subconjunctivally. The instillations by drop were kept up nearly continuously every fifteen minutes for five days and intermittently for ten days longer, making 340,000 units by this method and a total of 480,000 units of antiserum. Sixteen days after the institution of specific therapy another culture of material from the left eye was made, and it was found to be negative. A blood culture, made as soon as the original culture of material from the eye was reported, was negative. X-ray examination showed the pulmonary fields to be clear. The patient was discharged from the ward on the twenty-third day, with only a fine crescent on the cornea which stained with fluorescein. This had been the location of the previously advancing nasal border of the ulcer. The conjunctival chemosis had disappeared and only moderate diffuse injection remained, as well as two posterior synechiae. No immediate or delayed serum reaction occurred.

The patient was followed in the outpatient department and last seen July 6, at which time no staining of the cornea was present and the eye had remained quiet. The scarring of the cornea was minimal, being of macular density. Unfortunately the visual result could not be determined because of the senile cataract.

COMMENT

When the age of the patient and the advanced condition of the ulcer before treatment are considered, the clinical course proved to be distinctly better than that which is usually encountered with pneumococcic ulcers of the cornea. The scarring was certainly less than should have been expected.

We feel that here is a neglected phase of ocular therapeutics, since the previous objections to antiserum therapy are no longer valid. Potent antiserum for the different types of pneumococci is now available. It is possible that rabbit antiserum is better able to penetrate the cornea than the previously used horse antiserum. Our purpose in reporting a single case is to draw attention to the further possibilities of the antiserum therapy of pneumococcic infections of the eye.

The serum was furnished by the Lederle Laboratories, Inc.

From the Department of Ophthalmology and the Department of Medicine of the Hospital of the University of Pennsylvania.

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HEMIPLEGIA FOLLOWING INJECTION OF EPINEPHRINE HYDROCHLORIDE

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There is no previous record in the medical literature of hemiplegia in man brought on by an injection of epinephrine. However, Wilhelm Erb[1] in 1905 reported the production of cerebral hemorrhage in rabbits following injections of this substance. It is curious that epinephrine, because of its widespread and sometimes careless use by asthmatic patients, should not have been added before to the list of rare causes of hemiplegia along with antipneumococcus serum,[2] antidiphtheric serum,[3] insulin[4] and nicotine.[5]

REPORT OF CASE

History.—J. D., a white man aged 33, married, an electrician, was known to have had seasonal and perennial hay fever and bronchial asthma since the age of 10 years. For the last four years he had received specific therapy with tree, grass and ragweed pollens and also with the inhalants dust and orris root. With such therapy his condition was definitely improved, but at times fairly severe attacks of asthma developed. For relief from such attacks he used epinephrine in a nebulizer, and during more severe attacks it had been customary for his wife to administer subcutaneously to him injections of epinephrine hydrochloride. This she had done satisfactorily for three years.

His symptoms had been so severe during the last three ragweed seasons that it had been necessary to hospitalize him. However, during the first three weeks of the 1938 ragweed season and until the onset of his present illness, he had been comfortable and attended work by having his wife administer to him every evening 0.75 cc. of epinephrine in oil.[6]

The morning of August 29, he awakened with a mild attack of asthma, which he alleviated somewhat by using the nebulizer. However, in thirty minutes the asthma reappeared and his wife administered to him 0.5 cc. of the 1:1,000 solution of epinephrine hydrochloride. Immediately following the injection he experienced a violent, splitting headache and in a few seconds became unconscious. The train of symptoms appeared, as his wife described, in the length of time that it took her to walk from his bed, following the injection, to a chest of drawers where she kept the syringe.

Examination.—The patient was seen forty-five minutes later. He was lying flat in bed in a semicomatose state. The temperature was 99 F. and the pulse rate was 90. The respirations were slow and stertorous. Although he recognized me, he was unable to speak. The face was pale and the skin moist. There were no convulsive movements. The heart, lungs and abdomen were normal. The blood pressure was 120 systolic, 80 diastolic. (It is important to insert here that during the previous four years, while the patient was under constant observation and treatment for his allergic condition, the blood pressure, taken on many occasions, had never exceeded (110/70). The neurologic examination revealed the following:

Cranial Nerves: Second: The pupils were equal, round and regular, and reacted to light. Accommodation could not be tested. Visual fields could not be determined. The optic disks were clear and well defined. There were no hemorrhages or exudates.

Third, fourth and sixth: There was no ptosis of the lids. The ocular movements seemed normal.

Fifth: There was no apparent numbness of the face. The corneal reflexes were normal. The muscles of the jaw could not be tested.

Seventh: There was a moderate facial weakness on the right.

Eighth: The hearing, tested by watch and tuning fork, seemed normal.

Ninth, tenth and eleventh: The patient was unable to speak. The pharyngeal reflex was intact. The strength of the sternomastoid and trapezius muscles could not be tested.

Twelfth: The tongue was protruded to the right.

Motor System: The upper and lower extremities were flaccid, but there seemed to be more resistance to passive motion on the left side of the body. Tests for ataxia could not be made.

Sensory System: There was a definite reduction of cutaneous sensibility to touch and pain on both sides of the body, but there was less impairment on the left side.

Reflexes: The tendon reflexes were present in both the upper and lower extremities. There was no clonus. The right plantar reflex was definitely extensor.

In two hours the patient moved both legs and the left arm but was unable to move the right arm. In one week he was mentally clear but had difficulty in understanding what was said to him. The right arm could be lifted a few inches off the bed. For the first time he became aware that he was unable to see objects on the right of him with his left eye closed and that while reading he could see only half a word at a time. It was now possible to do a thorough neurologic examination.

The following observations were made by Dr. Frank R. Ford, the neurologic consultant.

Cranial Nerves: Second: The pupils were as described before. Examination of the visual fields disclosed a complete right homonymous hemianopia. The fundi were as described before.

Third, fourth and sixth: The conditions were as described before.

Seventh: There was a slight right-sided facial weakness.

Eighth: There was no subjective disturbance of hearing. Hearing was within normal range as tested with a watch and a tuning fork. There was no aural vertigo.

Ninth, tenth and eleventh: There was no weakness of the soft palate and no disturbance in swallowing. The pharyngeal reflex was present. There was no weakness of the sternomastoid and trapezius muscles.

Twelfth: The tongue protruded slightly to the right.

Motor System: There was some weakness of the right side of the face, of the right arm and of the right leg. The muscle tone was slightly increased in the right leg, although not obviously so in the right arm. The patient had a good deal of difficulty in using the right arm and leg. He missed his nose with the right finger but the movement suggested uncertainty rather than ataxia.

Sensory System: There was considerable reduction of cutaneous sensibility over the entire right side of the body, but there was not an absolute loss of touch or of pain. The sense of position, of passive movement, of stereognosis and of two-point sense were severely impaired on the right side of the body.

Reflexes: The tendon reflexes on the right side were as active as those on the left. There was no clonus. The right plantar reflex was definitely extensor.

Speech: The patient had some difficulty in finding words and forming sentences correctly. Articulation was fairly clear. He had great difficulty in understanding what was said to him and it was frequently impossible for him to grasp simple sentences, even when they were repeated.

It has been six weeks since the unfortunate accident occurred. The patient is now able to move the right arm above the head.

Dr. Leslie N. Gay gave the author the opportunity of reporting this case.

From the Protein Clinic, Department of Medicine, Johns Hopkins Medical School and Hospital.

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The gait is steady but he is uncertain of what the right leg is doing. The speech has improved and is more articulate, but he still has difficulty in understanding. With the exception of these changes the observations made on neurologic examination are identical with those enumerated before.

COMMENT

When the patient was first seen the development of the sudden hemiplegia could be attributed to either an angiospasm or a vascular hemorrhage due to a sudden hypertension. In either instance it was likely that the epinephrine by mistake had been injected directly into a small blood vessel; when the patient's wife was questioned, it became apparent that she had neglected to withdraw the plunger of the syringe before making the injection. Later on, because of the failure of the symptoms to disappear, it seemed more likely that there had been a vascular hemorrhage.

The neurologic consultant felt that there was a large lesion in the left hemisphere involving the visual pathways, the sensory pathways and some of the sensory speech areas and that the lesion must therefore involve the cortex of the inferior parietal region, where all these pathways are located. Because of the difficulty in speech, it was unlikely that the lesion could have been located in the left internal capsule.

The patient should improve slowly for a time, but it is improbable, because of the extent of the lesion, that he should make a complete recovery or ever be able to do more than the simplest work.

SUMMARY

A complete right-sided hemiplegia with a right homonymous hemianopia occurred in a young man without hypertension, following an injection of epinephrine hydrochloride.

1114 St. Paul Street.

DERMATITIS FROM INDUSTRIAL CONTACT WITH NICOTINIC ACID

R. M. WATROUS, M.D., NORTH CHICAGO, ILL.

Such pharmacologic work on nicotinic acid as has been reported has shown it to be a comparatively inert substance, aside from its specific effect in pellagra. A flushing of the skin with a sensation of warmth has been observed after its administration either intravenously or by mouth.[1] Rachmilewitz and Glueck[2] described the occurrence of an urticarial dermatitis with flushing of the face and severe itching in a patient with pellagra after he had received two 50 mg. doses of nicotinic acid orally. Chen, Rose and Robbins[3] determined the lethal dose for dogs to be 2,000 mg. per kilogram of body weight over a period of from eight to ten days—an enormous quantity compared with the therapeutic dose. These investigators found no irritant effect from 1 per cent solution of nicotinic acid injected intradermally. The following cases indicate that nicotinic acid is capable of producing a transient dermatitis in certain persons when it comes in contact with the skin.

REPORT OF CASES

CASE 1.—L. H., a white man aged 60, a nonsmoker, worked for an hour one afternoon making a granulation of nicotinic acid with excipients, in preparation for the molding of tablets. When he left work about two hours later, a physician called his attention to a diffuse erythema of all parts of the skin which had been exposed to the dust; his skin had the appearance of mild sunburn. That night the patient noticed moderate burning and itching of the affected skin and verified for himself its red appearance. The next morning the skin appeared and felt normal in every way, and it has continued so since.

CASE 2.—A. M., a white woman aged 38, an occasional smoker, began putting nicotinic acid tablets into bottles at 2 p. m. She continued the work the next day until 11 a. m. No symptoms were noticed until the following day, when she began to have severe itching and burning sensations on all portions of the skin not covered by the work clothing. On the affected areas there was a maculopapular rash with follicular distribution. The symptoms lasted with somewhat less severity until the next day, when I was able to verify the appearance and distribution of the rash. The skin was normal on the third day after exposure and has continued so since.

CASE 3.—A. M., a white woman aged 23, an occasional smoker, worked one morning bottling nicotinic acid tablets. At about 11:30 a. m. she began to notice a slight burning sensation on the exposed areas of skin and came to the dispensary, believing she had a "heat rash." At this time she had a diffuse erythema of all the exposed areas, sharply delimited by the lines of the clothing. On this erythematous base were small discrete maculopapules with follicular distribution. By 2:10 p. m. the reaction had faded considerably, and the exposed skin was washed with a cotton swab moistened with distilled water, the swab then being rinsed in distilled water. An unaffected area on the back was washed in a similar way, and the p_H of the washings determined immediately, with the following results: exposed skin, p_H 4.42; unexposed skin, p_H 4.35, and distilled water, p_H 6.10.

The next day the skin appeared and felt normal, and it has remained so since.

CASE 4.—J. B., a white woman aged 20, a nonsmoker, worked for an hour and a half putting nicotinic acid tablets into bottles. Nothing made her aware of any unusual condition of her skin until she happened to look in the mirror in the washroom and saw that her face appeared sunburned. She came to the dispensary to cooperate in the study, and her face was seen to be diffusely red except for two areas under the eyes, where her glasses had apparently prevented dust from settling. There was a mild burning or flushed sensation over the face at this time. The forearms, over the exposed portions, showed a fine macular rash with follicular distribution. No itching was complained of. Twenty-four hours later all subjective and objective manifestations had disappeared.

COMMENT

Other workers handling nicotinic acid under identical circumstances experienced no such reactions. The conditions under which the bottling of tablets was carried out allowed only a minimal exposure to the chemical; there was no visible dust, and the operator's hands never came in direct contact with the tablets.

To study further the effect of nicotinic acid on the skin, some powdered nicotinic acid was rubbed into a patch on the flexor surface of the forearm of eight volunteers. Four of these showed some reaction within a few hours, while the other four could detect no change whatever up to forty-eight hours after the application of the powder. Of the four showing reactions, three exhibited only a mild macular redness about the follicles, coming on from two to four hours after application of the chemical and lasting up to forty-eight hours, without itching or burning sensations. The fourth member of this group had a much more vigorous reaction, which came on only thirty minutes after contact and was accompanied with intense itching and burning. Some redness persisted in this subject for the next thirty-five hours. Curiously enough, this person showed no reaction at all when the same amount of nicotinic acid was rubbed into the skin of the forearm two weeks later. Five of these subjects were habitual smokers and three did not smoke. No correlation could be established between the use of nicotine and the susceptibility to the dermatitis.

The way in which nicotinic acid produces these local reactions is still obscure. That they are due to a local acid effect seems improbable because of the weak dissociation of nicotinic acid and because of the fact that not all skins respond to its application.

SUMMARY

Susceptibility to mild transient dermatitis due to contact with nicotinic acid during its industrial use is found only in certain persons at certain times, and its pathogenesis is at present unexplained. This condition is entirely related to industrial exposure to nicotinic acid and, to judge from existing literature, has no counterpart in clinical practice.

From the Department of Clinical Research, the Abbott Laboratories.

1. Gross, E. S.; Sasaki, Y., and Spies, T. D.: Effect of Nicotinic Acid on Increased Porphyrinuria Occurring in Seven Painters, Proc. Soc. Exper. Biol. & Med. **38**: 289 (March) 1938.
2. Rachmilewitz, M., and Glueck, H. I.: Treatment of Pellagra with Nicotinic Acid, Brit. M. J. **2**: 346 (Aug. 13) 1938.
3. Chen, K. K.; Rose, C. L., and Robbins, E. B.: Toxicity of Nicotinic Acid, Proc. Soc. Exper. Biol. & Med. **38**: 241 (March) 1938.

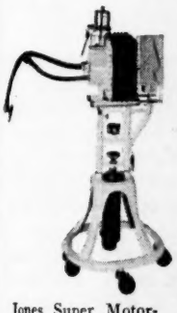
Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. HOWARD A. CARTER, Secretary.

JONES SUPER MOTOR-BASAL METABOLISM TESTER ACCEPTABLE

Manufacturer: Jones Metabolism Equipment Company, 315-323 South Honore Street, Chicago.

The Jones Super Motor-Basal Metabolism Tester is a closed circuit bellows type of metabolimeter using a motor blower to circulate the oxygen. It measures the time required by the patient to consume a measured liter of oxygen instead of computing the amount of oxygen consumed in a definite period of time. According to the firm, this method simplifies the computation. It is finished in white enamel with exposed parts of double chrome plate. The oxygen tank, chamber, and gage for measuring oxygen are supported by an iron frame. A superstructure carries the bellows, soda lime container, motor blower and recording device. Complete, the unit weighs approximately 50 pounds. It is 25 by 20 inches at the base and 50 inches high. With the breathing tubes in place, the overall length is 45 inches. It is readily portable on four 1½ inch casters.



Jones Super Motor-Basal Metabolism Tester.

The apparatus is connected to the patient by means of the conventional mouth piece and rubber tubes. A valve is provided which permits the patient to breathe room air until ready to begin the test. Then the valve is turned in the horizontal position so that the patient may breathe oxygen from the metabolimeter. The motor blower in the return circuit draws the oxygen and carbon dioxide from the patient and drives it through the soda lime back into the bellows. Negative pressure thus created at the mouth piece is very small.

Respiratory excursions are recorded on a moving plate, which drops at the rate of one inch per minute for eight minutes on the basal speed and in sixteen minutes at the superbasal position. A timer stops the apparatus. The movable plate operates on a plane perpendicular to that of the bellows. One end of the bellows is fixed. The recording pen is attached to the moving end. Two sizes of bellows are available. This increases the flexibility of the machine and makes it possible to handle patients of large size, irregular breathers, and individuals with a high oxygen consumption.

The Jones Motor-Basal Metabolism Tester was investigated in a clinic acceptable to the Council and gave satisfactory service, comparing favorably with other metabolism units with regard to accuracy and mechanical efficiency.

In view of the foregoing report, the Council on Physical Therapy voted to accept the Jones Super Motor-Basal Metabolism Tester for inclusion in its list of accepted devices.

SANBORN WATERLESS METABOLISM TESTER ACCEPTABLE

Manufacturer: Sanborn Company, 39 Osborn Street, Cambridge, Mass.

Description: The Sanborn Waterless Metabolism Tester is a compact, semiportable unit that can be readily wheeled from room to room. It is 19 inches high by 13 inches long by 11 inches wide and weighs approximately 33 pounds. It may be furnished with or without a stand that is adjustable in height from 29 to 38 inches and occupies 2.7 square feet of floor space. This stand carries the oxygen tank and auxiliary apparatus and is equipped with large wheels which make it easy and safe to move. The tubes connecting the machine with the patient are 26 inches long.

This waterless machine has most of the features described for the Sanborn Motor Grafic Model E. I. S. (THE JOURNAL, Aug. 22, 1936, p. 587). It differs principally in having a vertically moving rubber bellows in place of a water spirometer. This bellows is supported by a chain passing over ball-bearing pulleys. The weight of the bellows is counterbalanced by a spring in the base.

Recording is made by a kymograph, 3 9/16 inches in diameter, which carries a special wax coated chart rigidly held in place by special clamps. The electrically driven kymograph makes one complete revolution in ten minutes with an accuracy of plus or minus 0.16 per cent. The rulings in the chart are accurate to plus or minus 0.9 per cent.

The oxygen in the rubber bellows is circulated by means of a motor driven fan. This develops a positive pressure on the mouthpiece of 2 mm. of water. A valve inserted in the airline makes it possible for the operator to connect the patient with room air or oxygen at will.

METHODS OF USING THE METABOLISM TESTER

Two different methods of determining the rate of metabolism may be used with this waterless apparatus.

In the first, or short test, method a definite amount of oxygen, 1.25 liters, is placed in the bellows and the patient breathes from this until the oxygen is consumed. The time necessary for this is noted and a computation is made on this basis. No corrections for temperature and barometer are necessary in the short test. The volume of oxygen is measured in a rigid container and is not affected by barometer (atmospheric pressure), but the pressure applied to the oxygen within the container varies for different temperatures.

It is a fundamental law of physics that, when gas is in a rigid container, the volume is not affected by outside atmospheric pressure but varies with temperature and also by the pressure that is applied to the gas within the container. In the Waterless, oxygen gas is admitted to the container from a tank and the pressure is allowed to increase to a definite point required for the temperature that exists. A gage is calibrated to give the pressure that is required for 1.25 liters of oxygen at 0 C. and 760 mm. pressure.

This volume under compression is released into the rubber bellows from which the patient breathes. In the bellows, local conditions of atmospheric pressure and temperature may vary but there will still be 1.25 liters under standard conditions of 760 mm. and 0 C. By the test one finds the time it takes for a patient to consume this 1.25 liters and thus one obtains the patient's rate of oxygen consumption. This is the short test method.

In the second, or long test, method the bellows is filled with an excess of oxygen and the patient breathes this for a definite length of time, from ten to sixteen minutes. The amount of oxygen is then computed from the fall in the bellows. This fall is calibrated in terms of volume of oxygen.

In the long test method, temperature and barometer readings must be corrected for local conditions. These corrections are made in the same way that is customary in the common type of water-sealed metabolism testers. In the Waterless, the oxygen is let directly into the bellows through the pressure chamber with the bellows valve open. No reading of the gage or measurement by the pressure chamber is needed. The long test method may be used when the gage or pressure chamber which is required in the short test method is out of service. The unit volume of oxygen that is consumed during a given time is obtained from the chart, but the volume will be the volume that exists for a given temperature and barometer of local conditions. It must be corrected to 0 C. and 760 mm., and a correction of 2 per cent for humidity made.

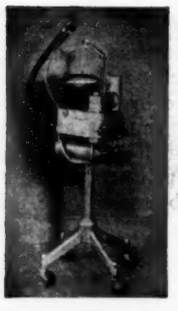
VOLUME OXYGEN DELIVERED BY GAGE

The accuracy of the short test method depends on the accuracy with which the oxygen is delivered to the bellows. This point has been carefully checked by the following method: The volume of oxygen delivered by the apparatus was measured as it would be used by the patient. Two 2 liter flasks were connected in an air tight manner with rubber stoppers which were fitted with convenient inlet and outlet tubes. One of the flasks was filled with distilled water, which had been allowed to come to room temperature, and weighed. Enough water was placed

in the other flask to create a partial vacuum. Both flasks were weighed to the nearest tenth of a gram before displacement; then the full flask was connected to the metabolimeter mouthpiece and inverted at the same time as the one nearly empty. The inverted flasks were supported on adjustable ring stands. Oxygen was then admitted according to directions in the Sanborn instruction booklet. The nearly empty flask was lowered so as to create a partial vacuum and the oxygen was drawn over from machine to flask as a result. This was continued until the full amount of oxygen admitted to the bellows was in the displacement flask. Clamps were placed on the connection to the metabolimeter and the flasks were brought to a common level, disconnected and weighed. The difference in weight between the flask empty and the flask filled gave the amount of water displaced, and this gave, in turn, the volume of oxygen represented delivered by the gage to the bellows. The volume of oxygen collected during six trials averaged 1,444 cc., which, corrected for a temperature of 23 C., a barometer of 749 and a saturated water vapor of 20 mm., gave 1,278 cc. of dry oxygen delivered by the gage, the correct volume being 1,275 cc.

ACCURACY OF THE LONG TEST METHOD

In the long test method the oxygen is not measured by the gage but by the fall of the bellows. This is measured on the chart by a special scale, which should be calibrated for each instrument. The accuracy of this method depends on the resilience of the rubber bellows. As this changes in the course of time, the scale must be recalibrated. Since the accuracy of the apparatus may change slowly, it is advisable that the operator recheck the scale and the condition of the bellows or have this done by the firm at regular intervals.



Sanborn Waterless Metabolism Tester.

Careful measurements comparing the long test with the short test under identical conditions gave a difference in readings between the two of 3 per cent when the scale was used without correction.

The long test method also requires an accurate reading of the temperature of the oxygen in the bellows. Temperatures are read during the long test by a mercurial thermometer with bulb directly in the breathing circuit. The average temperature is used to correct the volume of oxygen used.

OXYGEN LOSS FROM BELLOWS

The ability of the system to hold gas was tested by placing a weight of 1 Kg. on the bellows for forty-eight hours with all valves closed. The system lost 25 cc. of oxygen per hour. Without any pressure on the bellows, the loss was 3.7 cc. per hour. This indicates that under usual conditions the loss of oxygen is slight, 0.06 cc. per minute. Since the rubber bellows is clamped to the metal frame by a ring which compresses the rubber and is also cemented wherever a junction is effected with metal, the chance for oxygen loss during a metabolism determination is slight.

CLINICAL TESTS

The Sanborn Waterless Metabolism Tester, the short test method being used, was compared with the standard tested metabolimeter used in the clinic. Patients were tested consecutively on both machines under strictly comparable conditions. The determinations made on the different machines agreed within 2 per cent of one another. The Sanborn Waterless Metabolism Tester gave readings uniformly lower than the standard apparatus.

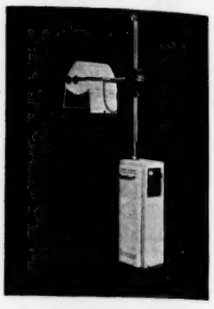
The tables in the pamphlet concerning calculation of the long test method have been checked with the slide rule and are found to be correct. The directions in the book of instructions describe the handling of the patient in a clear and concise manner and the operation of the apparatus correctly.

As the result of the Council's investigation, it seems evident that the Sanborn Waterless Metabolism Tester is accurate within the limits allowed for metabolism testing apparatus. In view of this report, the Council on Physical Therapy voted to include the Sanborn Waterless Metabolism Tester in its list of accepted devices.

HANOVIA SUPER ALPINE LAMP (MODELS S AND E) ACCEPTABLE

Manufacturer: Hanovia Chemical & Manufacturing Company, Chestnut Street and N. J. R. R. Avenue, Newark, N. J.

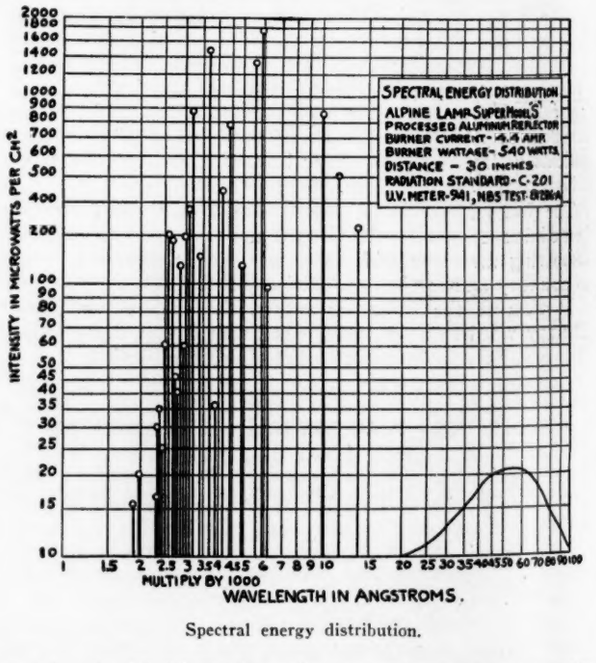
The Hanovia Super Alpine Lamp is a high pressure, high intensity quartz mercury arc lamp recommended for use in the hospital or physician's office. It is available in two models; Model S operates on alternating current, Model E on direct current. The burner is mounted at the focal point of a processed aluminum reflector which is supported within an outer hood, from which it is separated by a ventilation envelop, designed to assist in maintaining a comfortable hood temperature. A steel tape measure located at the side of the hood may be employed to measure the distance from the burner to the patient.



Hanovia Super Alpine Lamp.

The lamp hood is supported on the upright by means of a main swing head and cross arm, and is counterbalanced by a counterweight located within the upright. Vertical adjustment permits a minimum distance between the burner and floor of 48 inches and a maximum distance of 78 inches. The cross arm has a 10 inch travel, and at its maximum extension the burner is 24 inches from the upright, which rests on the transformer electrical control cabinet, in turn, integral with the base. This is mounted on four 4 inch rubber tired casters with clearance sufficient under the base for movement over a 2 inch door sill. The hospital unit in addition has a hospital-type carrier rigidly bolted to the base, especially adapting the lamp to ward work for bedridden patients. The approximate shipping weight of the entire unit is 200 pounds.

The electrical controls are located in a ventilated steel housing the top of which is 39 inches from the floor. A control panel is located on the side of the housing 32 inches from the floor. It comprises an electric supply switch, a ten point intensity control switch and an indicating instrument. The instrument for the Model S alternating current lamp is an ammeter which indicates the burner current. The instrument for the Model E direct current lamp is a voltmeter which indicates the burner voltage and polarity.



Spectral energy distribution.

The ultraviolet ray generating source, a self-starting burner, is a high pressure, low voltage mercury arc enclosed within a transparent fused quartz tubular vessel provided with metal lead-ins for the electric current which are sealed vacuum tight

directly to the quartz tubing. An alternating current burner contains self-heating incandescent solid activated electrodes and a filling of mercury, with a rare gas for self-starting purposes. The direct current burner utilizes a mercury pool cathode and a solid incandescent anode. Ultraviolet, visible and infra-red radiations are emitted by both types of burners.

Model S (alternating current), operated on control No. 1, produces an intensity of ultraviolet rays for wavelengths 3,130 angstroms and shorter of 1,500 microwatts per square centimeter and in ten steps to 2,500 microwatts per square centimeter. The maximum ultraviolet energy (after the lamp has warmed up) is sufficient to produce a first degree erythema (mild reddening) on the average person after an exposure of twenty seconds. The direct current lamps, Model E, are similar to the Model S in intensity and erythema production.

The firm submitted evidence to substantiate the ability of these lamps to produce suitable ultraviolet radiation to prevent or cure rickets in children, to prevent and cure infantile tetany.

The unit was tried out in a clinic acceptable to the Council and gave satisfactory performance. It apparently emits the same kind of radiation generated by other Hanovia lamps previously accepted by the Council. The lamp also gives the same type of service in the clinic as other Hanovia units have in the past.

In view of the foregoing report, the Council on Physical Therapy voted to accept the Hanovia Super Alpine Lamp, Models S and E, for inclusion in its list of accepted devices.

"CHALLENGER" MODEL K SHORT WAVE UNITS ACCEPTABLE

Manufacturer: The Birtcher Corporation, 5087 Huntington Drive, North, Los Angeles.

The Challenger Model K Short Wave Units are recommended for medical and minor surgical uses. They are available in three cabinet styles designated 970, 980 and 990. The DeLuxe model (990) has a shipping weight of approximately 163 pounds. The dimensions of the cabinet are 45 inches high by 24 inches wide by 15 inches deep. The Standard model (980) comes in a two-piece cabinet and its shipping weight is approximately 125 pounds. The cabinet dimensions are 43 inches high by 20 inches wide by 14 inches deep. The small Portable model (970) comes in a black leatheret case with an electrode compartment and a removable lid. Its net weight is about 50 pounds and its dimensions are 13½ inches high by 19 inches wide by 15 inches deep.

Challenger Model "K" Short Wave Unit.

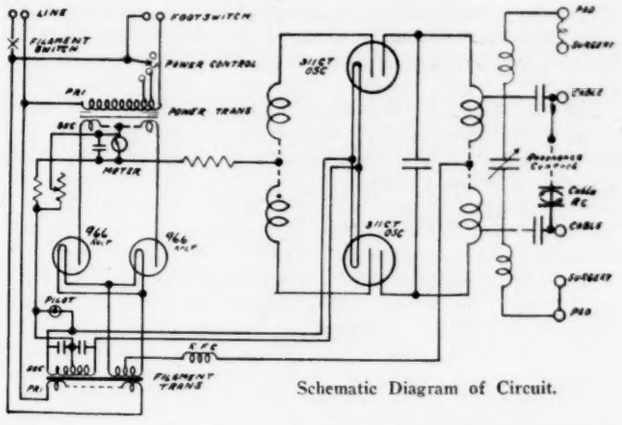
A tuned plate, tuned grid circuit is utilized and has a wavelength of approximately 16 meters. Two power and two separate rectifier tubes and a separate filament transformer are employed. Evidence submitted by the firm indicated that with an electromotive force of 116 volts and a measured input of 890 watts, the photoelectric cell and lamp load method being used, the output was 520 watts. With this load the output meter was evidently short circuited and no regard paid to the excursion of its needle.

In the Council test, with an electromotive force of 111 volts and an input of 660 watts, the output measured 270 watts. In this test the output meter was used and full scale reading regarded as full load of the apparatus.

With regard to the inductance calorimeter method, the firm submitted data showing that, with an electromotive force of 120 volts and a measured input of 970 watts and 3½ turns of the cable, the output was 445 watts.

In the Council test, in which a calorimeter was used according to specifications by the firm, and at an electromotive force of 107.5 volts and an input of 1,020 watts, the output was 417 watts. The milliammeter on the panel read about 600. In other words, the needle deflected as far as it could and would have gone farther had the scale been larger. Under this load the rectifier tubes began to flicker and the investigator recognized this as being an overload on the machine.

At a maximum input of 660 watts after two hours of continuous service the temperature rise in the outside windings of the transformer was 60 C., which is within limits acceptable to the Council.



Schematic Diagram of Circuit.

Evidence submitted by the firm for tissue heating was on a machine of similar hookup. It is given in the accompanying table.

Averages of Eight Observations

Deep Muscle		Oral	
Initial	Final	Initial	Final
	Pad Technic		
99.5	100.1	98.8	98.9
	Cuff Technic		
99.2	101.8	98.4	98.9
	Cable Technic		
99.3	102.7	98.8	98.1

The unit was tried out clinically by a qualified physician selected by the Council, who reports that it gave satisfactory service.

In view of the foregoing report, the Council on Physical Therapy voted to include the "Challenger" Model K Short Wave Diathermy Units Nos. 970, 980 and 990 in its list of accepted devices.

Council on Pharmacy and Chemistry

REPORT OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

PAUL NICHOLAS LEECH, Secretary.

LYXANTHINE-ASTIER NOT ACCEPTABLE FOR N. N. R.

Lyxanthine Astier is a polypharmacal mixture of ingredients marketed by the Gallia Laboratories, Inc., of New York City for the treatment of arthritis and related conditions.

The advertising circular for this product states, "Lyxanthine-Astier, a product of the research laboratories of Dr. P. Astier of Paris, France, and now prepared in the United States, is a compound containing an efficient combination of active principles amounting to 33%." The content of the various ingredients in 100 Gm. of the preparation is listed as follows:

"Iodo-propanol-sulphonate of sodium	12 Gm.
Bitartrate of lysidin	9 "
Calcium gluconate	12 "
Sodium bicarbonate	37 "
Tartartic acid	15 "
Citric acid	6 "
Powdered sugar	9 "
Oil of Lemon	several drops

The three ingredients apparently considered by the manufacturer to be of principal therapeutic value, since their actions are discussed individually, are iodo-propanol-sulfonate of sodium, which, it is claimed, "Combines the action of sulphur and iodine"; calcium gluconate, "An entirely organic radical of calcium"; and lysidin bitartrate, "A powerful solvent and eliminant of metabolic waste." The total content of these three ingredients is said to be 33 Gm. in 100 Gm. of Lyxanthine, which

agrees with the quantitative statement ". . . an efficient combination of active principles amounting to 33%." The content of other ingredients, which might conceivably be active constituents of the mixture, that is, sodium bicarbonate 37 per cent, or the tartaric and citric acids together, 21 per cent, would leave the physician and the patient in a dilemma regarding the manifold therapeutic possibilities, or contrariwise, of this complex mixture.

The indications for the use of Lyxanthine-Astier are stated to be "Arthritis—regardless of classification, whether mono- or poly-articular"; "Chronic rheumatism—whether articular or the so-called 'muscular rheumatism,'" gout; sciatica; neuritis, neuralgia; lumbago; gallstones; renal, ureteral or vesical calculus; "in hepatic disorder associated with arthritis," and several other conditions. The recommended course of treatment consists of ". . . 20 consecutive days of medication followed by a 10 day rest period." According to the dosage recommendation of one teaspoonful daily (two teaspoonfuls in acute attacks), a patient would take daily a mixture of about 0.48 Gm. each of iodo-propanol-sulfonate of sodium and calcium gluconate, 0.36 Gm. of lysidine bitartrate, the sodium salts resulting from the effervescent interaction of 1.48 Gm. of sodium bicarbonate, 0.6 Gm. of tartaric acid and 0.24 Gm. of citric acid dissolved in a glass of water; and twice as much if he decided he had ". . . to treat an acute attack." Continued alkalinity of the urine could promote precipitation of phosphates in the kidneys and bladder and possible formation of calculi with serious consequences. Hence, it is wholly unwarranted for the manufacturer to make such irresponsible recommendations on dosing with these alkalizers without warning the patient and physician of possible undesirable systemic disturbances, if not dangers to health. The ingredients chosen for special mention in the manufacturer's circular may be considered first.

IODO-PROPANOL-SULFONATE OF SODIUM

Iodo-propanol-sulfonate of sodium (CH_2I-$CHOH$-CH_2SO_3Na) is not listed in the United States Pharmacopeia, National Formulary, New and Nonofficial Remedies, Heffter-Heubner's Handbuch der experimentellen Pharmakologie or Seifert's Nebenwirkungen, nor is it listed in the *Quarterly Cumulative Index Medicus* to June 1938 or in *Chemical Abstracts* from 1916 to 1938.

There appears to be no discoverable published scientific evidence that iodo-propanol-sulfonate of sodium has a specific action in arthritis or in the other diseases listed by the manufacturer. That this agent "combines the action of sulphur and iodine" may be true, but it does not follow that these chemical elements, as used in Lyxanthine-Astier, are available for the ordinary actions of which they are capable when free or in simpler combinations.

Both iodine and sulfur have been recommended in various forms for the treatment of arthritis. For example, iodine has been used as potassium or sodium iodide, the iodoxybenzoate and iodocinchophen among the better known forms. Despite this usage, the therapeutic value of iodine in arthritis has never been conclusively demonstrated. The Council on Pharmacy and Chemistry does not recognize this therapeutic claim for iodine.

Sulfur has been widely used parenterally as a means of producing fever and also to some extent orally by using a combination of iodine and disodium-dithio-salicylate, which was recommended by Nardelli [1] for arthritis. Here again the specific value of the oral use of sulfur has not been found acceptable. The effectiveness of compounds like iodothiosal may be attributed to their salicylate content. Similarly also the effects of iodoxybenzoate and iodocinchophen may be ascribed to the oxybenzoate and the cinchophen, respectively.

LYSIDINE BITARTRATE

Lysidine, or ethylene-ethenyl diamine, was introduced by Ladenburg in 1894 as a uric acid solvent for use in the treatment of gout. Like piperazine, lycetol (dimethyl piperazine tartrate) and other compounds, which have been similarly recommended, it is a basic amine capable of forming a soluble salt of uric acid in the test tube.

In an exhaustive review of these compounds in 1917 Hanzlik [2] cited evidence to show that, although they dissolved uric acid in vitro, the presence of sodium chloride or urine greatly decreased this solvent power. As shown by Haskins [3] in 1916, large doses of lysidine given to men might slightly increase the uric acid content of the urine and also the uric acid dissolving power of the urine, particularly when sodium bicarbonate was given simultaneously. However, simple alkalization and dilution of the urine gave correspondingly effective results, without exposing the patient to the possible harmful effects (dermatitis) of lysidine.

Since the appearance of Hanzlik's review twenty-one years ago, no references to lysidine have been found in the *Quarterly Cumulative Index Medicus* up to June 1938. In 1935 a United States patent [4] was granted for the cinchoninic acid salts of the piperazines, with the claim that these were effective therapeutic agents in the treatment of arthritis. No clinical or experimental reports have been found to date to substantiate this claim.

Meyer-Gottlieb and Pick [5] state that the assumption is erroneous that increased excretion of uric acid can be produced by alkalis or by uric acid solvents (piperazine, lysidine, lithium carbonate and so on), as is also the assumption that urate stones in the bladder can be dissolved by these agents. Thus the manufacturers' advertising literature perpetuates an old therapeutic error in the face of evidence to the contrary.

Accordingly, no evidence or authoritative opinion has appeared to date which would warrant altering Hanzlik's conclusion that the use of such urate solvents as piperazine and lysidine, with the hope of obtaining therapeutic effects in gout and related disorders, is inadvisable.

As previously stated, among the alleged indications for the use of Lyxanthine-Astier, in addition to gout, are arthritis, neuritis, gallstones and other conditions in which there is no known disturbance of purine metabolism. The use of a uric acid solvent in these diseases, even if it were effective on body urate, is obviously irrational.

CALCIUM GLUCONATE

Calcium gluconate is an effective preparation of calcium and as such may help supply the normal calcium requirements of the body. However, there is no acceptable evidence for a specific therapeutic value of calcium in arthritis, gallstones and so on. It has been reported by Graber-Duvernay [6] that a series of twelve or more injections of 10 cc. of 10 per cent solution of calcium gluconate, given intravenously at intervals of three or four days, remarkably ameliorated the symptoms of five cases of arthritis. The solution is reported to have been less effective when given intramuscularly, despite the fact that intramuscular injection is an accepted method of administering this compound for the systemic effects of calcium. A verification of the therapeutic results claimed by Graber-Duvernay has not been found in medical literature. It may be noted that the alleged therapeutic effects resulted from intravenous, and not oral, use of the calcium gluconate. This is another case of abuse of intravenous medication, since the systemic effects of calcium are readily obtained by the oral and intramuscular methods. It is pertinent that the Council on Pharmacy and Chemistry does not accept claims of therapeutic value in arthritis for calcium gluconate.

OTHER INGREDIENTS

The other ingredients of Lyxanthine-Astier, namely sodium bicarbonate, tartaric acid, citric acid, powdered sugar and oil of lemon, require no special consideration, as their actions and uses are well understood. The diuretic, antacid and possible cathartic actions of the sodium salts of the organic acids could conceivably produce beneficial eliminative effects, which might impress favorably a susceptible patient. But, of course, the eliminative treatment might be carried too far for his good. Some of these results would be obtained by the use of these simple remedies alone, when indicated, or even by liberal drinking of water alone, without the inconvenience and expense of taking them with the other unnecessary ingredients of Lyxanthine. At the same time there is no good reason to attribute specific antigout effects to these common agents, but the manu-

1. Nardelli, G.: Arch. di farmacol. sper. **50:** 125 (March 20) 1930.
2. Hanzlik, P. J.: J. Lab. & Clin. Med. **2:** 308 (Feb.) 1917.
3. Haskins, H. D.: The Uric Acid Solvent Powder of Urine After Administration of Piperazin, Lysidin, Lithium Carbonate and Other Alkalis, Arch. Int. Med. **17:** 405 (March) 1916.
4. Ornstein, S.: U. S. Patent 2,008,923, July 23, 1935.
5. Meyer-Gottlieb and Pick: Die experimentelle Pharmakologie, ed. 4, 1933, p. 557.
6. Graber-Duvernay, J.: Lyon méd. **154:** 211 (Sept. 2) 1934.

facturer does not mention this in his advertising. Taken occasionally, these common agents might be of less harm to the patient than the other ingredients. However, there is no justification for medication on the assumption that what might do no harm might sometimes do some good, with the complete oversight of *vix medicatrix naturae*.

Claims for the therapeutic value of the oral use of the constituents of Lyxanthine-Astier in the diseases named in the advertising are based on reports which do not represent convincing evidence. The unsigned and therefore unidentifiable testimonials which appear in the manufacturer's advertising circular are of little satisfactory value as controlled scientific evidence. Consistent with the unfavorable opinion expressed in this report is a recently expressed adverse opinion of the claims for Lyxanthine-Astier.[7]

SUMMARY

1. Lyxanthine-Astier is a polypharmacal mixture of four well known drugs of the therapeutic armamentarium and two less common agents together with flavoring and aromatic ingredients.

2. Of the two uncommon agents, lysidine bitartrate is obsolete and in the opinion of the Council devoid of therapeutic usefulness. The other uncommon ingredient is iodopropanol-sulfonate of sodium, whose actions and uses have not been established by evidence adequate to justify its exploitation as a therapeutic agent.

3. The content of the other more common ingredients, namely calcium gluconate, sodium bicarbonate and the tartaric and citric acids, is sufficiently high to produce the undesirable state of alkalosis if Lyxanthine-Astier should be used continuously and indiscriminately. This undesirable effect is considered possible because of the rather liberal dosage of Lyxanthine-Astier advised by the manufacturer, but especially the higher dosage for so-called "acute attacks." Such usage might actually prove dangerous to susceptible individuals.

4. Satisfactory clinical and experimental evidences of the usefulness of Lyxanthine-Astier, either as the whole mixture or as the ingredients individually, are conspicuous by their absence in support of the manufacturer's therapeutic claims, which concern themselves with gout, arthritis, chronic rheumatism, sciatica, neuralgia and several other chronic disorders.

5. Accordingly, Lyxanthine-Astier has no recognized place in the therapeutic armamentarium, the claims for it being unwarranted and misleading, and its exploitation to the physicians and public is unjustified.

The Council voted that Lyxanthine-Astier be declared not acceptable for New and Nonofficial Remedies because it is a needlessly complex and unscientific mixture of well known substances marketed under a fanciful name with claims that are in the main exaggerated and unwarranted.

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

PAUL NICHOLAS LEECH, Secretary.

ANTIPNEUMOCOCCUS SERUM TYPES IV AND VIII COMBINED (See THE JOURNAL, June 18, 1938, p. 2082, and the Revised Supplement to N. N. R., 1938, p. 18).

E. R. Squibb & Sons, New York.

Concentrated Antipneumococcic Serum, Types IV and VIII-Squibb.—Concentrated antipneumococcic serum, types IV and VIII, is prepared by immunizing horses with intravenous injections of cultures of types IV and VIII pneumococci. When test bleedings show the serum to have reached a sufficient degree of potency for these two types of pneumococci, the horses are bled aseptically and the serum is refined and concentrated by the method described by Lloyd D. Felton (*J. Immunol.* **21**: 357 [Nov.] 1931). The usual sterility and safety tests are made, as required by the regulations of the U. S. Public Health Service, and the potency of the product is expressed in terms of the standard serum for type VIII antibodies as supplied by the National Institute of Health. For type IV antibodies the serum is tested against standard serum, the value of which has been expressed in terms of the unit described by Felton in the *Journal of Infectious Diseases* **37**: 309 (Oct.) 1925. Marketed in vials containing 20,000 and 50,000 units respectively of each type.

Dosage.—At least 100,000 units intravenously within the first four hours after diagnosis has been established.

7. Arthranol, Ertron and Lyxanthine-Astier, Queries and Minor Notes, J. A. M. A. **111**: 1953 (Nov. 19) 1938.

ANTIPNEUMOCOCCUS SERUM TYPES V AND VII COMBINED (See THE JOURNAL, June 18, 1938, p. 2082, and the Revised Supplement to N. N. R., 1938, p. 18).

E. R. Squibb & Sons, New York.

Concentrated Antipneumococcic Serum, Types V and VII-Squibb.—Concentrated antipneumococcic serum, types V and VII, is prepared by immunizing horses with intravenous injections of cultures of types V and VII pneumococci. When test bleedings show the serums to have reached a sufficient degree of potency for these two types of pneumococci, the horses are bled aseptically and the serum is refined and concentrated by the method described by Lloyd D. Felton (*J. Immunol.* **21**: 357 [Nov.] 1931). The usual sterility and safety tests are made, as required by the regulations of the U. S. Public Health Service, and the potency of the product is expressed in terms of the standard serum for type V and VII antibodies as supplied by the National Institute of Health. Marketed in packages of one vial containing 20,000 units and 50,000 units respectively each of types V and VII.

Dosage.—At least 100,000 units intravenously within the first four hours after diagnosis has been established.

BARBITAL SODIUM-ABBOTT (See New and Nonofficial Remedies, 1938, p. 129).

The following dosage form has been accepted:

Barbital Sodium Tablets, 5 grains.

SUPRARENALIN (See New and Nonofficial Remedies, 1938, page 231).

The following dosage forms have been accepted:

Suprarenalin Solution 1:1,000 in 1 cc. ampules (for hypodermic use).
Suprarenalin Solution 1:1,000 in 10 cc. vials (for hypodermic use).
Suprarenalin Solution 1:1,000 in 1 oz. bottles (for parenteral use).
Suprarenalin Solution 1:10,000 in 1 cc. ampules (for hypodermic use).

Council on Foods

ACCEPTED FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION AND WILL BE LISTED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED.

FRANKLIN C. BING, Secretary.

PIERCE MILL YELLOW CORN MEAL

Manufacturer.—Welfare and Recreational Association of Public Buildings and Grounds, Inc., Washington, D. C.

Description.—Bolted yellow corn meal containing the germ endosperm and a small amount of bran.

Manufacture.—Corn which has been thoroughly cleaned is crushed between millstones operating in a restored grist mill for which an "old type" water wheel provides the power. The stones are run at slow speed, causing only a slight rise in temperature of the grain. The ground corn is passed over a bolting cloth, where most of the bran is discarded. The meal, which is not heat treated during milling, is packed in waxed paper and cardboard cartons which must be stored in a cool dry place to prevent rancidity.

The mill is subject to inspection by government health authorities and by a sanitary officer employed by the association.

Analysis (submitted by manufacturer).—Moisture 10.4%, total solids 89.6%, ash 1.3%, fat (ether extract) 4.5%, protein (N × 6.25) 7.9%, crude fiber 1.8%, carbohydrates other than crude fiber (by difference) 74.1%.

Calories.—3.69 per gram; 105 per ounce.

CRADLE BABY BRAND STRAINED AND SEEDLESS CURRANT AND RASPBERRY JAM

Manufacturer.—Glaser, Crandell Company, Chicago.

Description.—Canned strained jam, prepared from a mixture of currants and red raspberries, sweetened with sucrose. The jam may contain small amounts of added acid and/or pectin.

Manufacture.—Currants and red raspberries from Michigan are handled as described for Cradle Baby Brand Strained and Seedless Grape Jam (THE JOURNAL, April 8, 1939, p. 1343).

Analysis (submitted by manufacturer).—Moisture 31.2%, total solids 68.8%, water-insoluble solids 0.3%, water-soluble solids 68.5%, ash 0.3%, protein (N × 6.25) 0.7%, crude fiber 0.3%, carbohydrates other than crude fiber (by difference) 66.6%, acidity 0.9%.

Calories.—2.69 per gram; 76 per ounce.

THE CASE OF BRINKLEY VS. FISHBEIN

PROCEEDINGS OF A LIBEL SUIT BASED ON AN ARTICLE PUBLISHED IN *HYGEIA*

(Continued from page 2065)

DEPOSITIONS

There were next introduced in evidence, after considerable discussion, depositions taken in advance of the trial by the attorneys for the American Medical Association.

DEPOSITION OF HORATIUS DEWITT OSBORN

Mr. Matthews, attorney for the American Medical Association, read the deposition of Horatius DeWitt Osborn, employee of the Brinkley Hospital in Little Rock, who testified that he graduated from high school in Fulton, Kan., in 1916 and then attended, for three years, the Kansas College of Medicine and Surgery. He testified also that the fee of $750 is paid sometimes by check, sometimes in cash, and sometimes with a personal note for the balance, sometimes in instalments. He stated also that collateral is accepted in the form of investment certificates or bonds.

TESTIMONY OF ARTHUR S. HUMPHREY

Arthur S. Humphrey stated that he was deputy clerk of the District Court of Geary County, Kansas, and that he had personally taken from the records of the court in Kansas a number of depositions developed in connection with a previous suit of Brinkley vs. Fishbein. Mr. Matthews then introduced into the record some depositions from this suit.

DEPOSITION OF HANS V. CHRISTENSEN

Hans V. Christensen testified that he is the auditor of the Kansas City *Journal Post*, that the Kansas City *Journal Post* had carried a rotogravure supplement relative to Brinkley and had been paid $2,842 for the publication of this supplement for one day.

DEPOSITION OF EVERETT E. ELLISON

This deposition stated that Everett E. Ellison is an advertising man. Mr. Ellison described his conversation with Brinkley relative to the job concerned with the rotogravure supplement in the Kansas City *Journal Post*.

Mr. Matthews then introduced the supplement itself as an exhibit in the case.

ARGUMENT ON INTRODUCTION OF FURTHER DEPOSITIONS

At this point the jury was excused while the Court heard arguments as to the matter of further depositions in the case relating to the previous career of John R. Brinkley in Greenville, S. C., one of the depositions being that of an attorney who represented Brinkley in 1913 and who later testified as to the incidents involved. The Court ruled that the attorney's deposition would not be admissible.

On the other hand, the Court ruled that the testimony of James E. Crawford, inmate of a penitentiary in Oklahoma, who had been associated with Brinkley in Greenville, would be admissible. A number of advertisements which had been circulated in Greenville were offered in evidence and postponed for further consideration.

DEPOSITION OF JAMES E. CRAWFORD

Mr. Matthews then read the deposition of James E. Crawford, who stated that he had first met John R. Brinkley in the spring of 1913 in Chicago at the bar in the Brevoort Hotel. They became casually acquainted while having drinks together, later going to Chattanooga, Tenn., with the plan to form medical offices similar to the one in which Brinkley had been previously employed in Chattanooga, Brinkley stating that he had been employed by Dr. Burke, a physician who specialized in venereal diseases. Crawford stated that he and Brinkley studied the methods of Burke in Chattanooga, remaining there two weeks, and then going to Greenville, S. C. They first looked over the city to see whether or not it would be profitable to establish offices and then located on Main Street over a drugstore on the corner, remaining approximately two months. A sign was made reading "Greenville Electro Medic Doctors." Advertisements were placed in the Greenville papers. At the time of their arrival in Greenville they possessed less than $10. A credit account was opened at the drug store to cover the supplies and the rent. Their advertisement stated that they were specializing in venereal and nervous diseases, which they purported to treat with 606 and 914. Actually, the witness said, they didn't use either one. "We used instead a colored solution of distilled water for injections." Brinkley did the injections and Crawford was the business manager. A charge of $25 was made for each injection.

After two months, Brinkley and Crawford departed from Greenville. Crawford stated that the immediate occasion of leaving was pressure on the part of creditors for collection of bills.

At the cross examination Crawford stated the he was at present in the Oklahoma penitentiary for eighteen months for having committed robbery with firearms. He had previously served a term in the Federal Prison in Leavenworth, Kan., for transporting a stolen motor car. The robbery was committed at the Hotel Mayo in Tulsa, Okla.

TESTIMONY FOR THE PLAINTIFF: TESTIMONY OF I. F. INGRAM

I. F. Ingram stated that he was commonly known as Frenchy Ingram. He was a ranchman who had once been a patient of Dr. Brinkley's. At this time the jury was excused from the courtroom, and the attorneys presented arguments concerning the question of admissibility of the testimony of patients. This argument occupies some fifteen pages of the transcript, after which the court ruled that such evidence was inadmissible.

TESTIMONY OF MARSHALL SMITH

Marshall Smith testified that he has lived in Del Rio, Texas, for thirty-four years; that he is in the ice business; that he had read the article in *Hygeia*, having found the magazine on the bureau in a hotel in San Antonio. He stated also that the article was much discussed in Del Rio at the time it appeared.

TESTIMONY OF HERMAN LIPPE

Herman Lippe testified that he had lived in Del Rio, Texas, for seventeen years; that he had read the article in *Hygeia*, having purchased a copy at a newsstand, and that the article was much discussed in Del Rio.

TESTIMONY OF CLARA W. BLETHEN

Clara W. Blethen testified that she is a resident of Minneapolis and that she had read the article in a doctor's office in Minneapolis. On cross examination it was brought out that her son-in-law is a pilot for Brinkley's airplane and has been for about eight years.

TESTIMONY OF R. R. TUMBY

R. R. Tumby testified that he is a resident of Ackerly, Texas, and is pastor of the First Baptist Church, and at various times he has officiated in other cities in Texas. He has known John R. Brinkley since 1936, at which time he was operated on in the Brinkley hospital and the operation was performed without charge. He testified also that the reputation of Dr. Brinkley in various parts of Texas as a prostatic surgeon was good.

TESTIMONY OF A. C. PETERMEYER

A. C. Petermeyer was recalled to the stand by the plaintiff and questioned by Mr. Morriss Sr. He brought with him a

copy of Gray's Anatomy, 23d edition, on page 231 of which is a picture of the testicle. He explained with this illustration, and with the aid of a blackboard, the anatomy of the testis, also describing again the nature of the operation performed on the testis, involving tying off of the efferent tubules. The testimony then proceeded:

Q.—All right, just how does Doctor perform or you perform this operation, then, please, sir? *A.*—A sulcus is located between the head of the epididymis; that is, this space between the testicle and the epididymis, all these ducts converging into this area. If we wish to ligate all of the ducts the suture or the ligature—

Q.—What do you mean by suture or ligature? *A.*—The thread, we use linen, is passed through this sulcus, entirely around all of these ducts.

Q.—In other words, if you are wanting— *A.*—If we wish to produce sterility?

Q.—Yes, sir. *A.*—Yes, sir. If not, the needle is introduced through, not around, but through the approximate center portion of the area, the linen suture is carried through with the needle.

Q.—To tie off approximately half of them? *A.*—To tie off approximately half of the ducts.

Q.—Then it is always more or less, is that it? *A.*—Yes, sir.

Q.—And then it is tied there with this linen cord, is that it? *A.*—That is right.

Q.—Now, Doctor, state whether or not in that way you do have the effect to cut off the secretion through those ducts you do ligate? *A.*—Yes, sir.

Q.—And now what is the particular effect that you are trying to accomplish by that part of the operation, this tying off? *A.*—We are trying to accomplish a balanced condition of the secretions of the testicles.

Q.—Now, what do you mean by a balanced condition? Explain that in detail. *A.*—It has been shown that in early adult life there is a normal physiological balance of the secretions of the testicles. Two secretions have been identified, the male hormone and the female hormone. These secretions have been found in the urine, and in an average, normally conditioned male about 18 units of the male hormone are found in the urine. Studies and work with men in the late forties and early fifties have produced this evidence, that there was a physiologically unbalanced condition of these two hormones, male and female.

Q.—One of the doctors spoke of that yesterday, I believe, or something like that. He said on cross examination that he compared it to a change of life. *A.*—Yes, sir.

Q.—Is that the way you would express it? *A.*—Yes, that is true. Paul Niehans of Switzerland and Elliott Smith of London and Lower, who is with the Crile Clinic in Cleveland, Ohio, have made studies of the testicle with its relation to the prostate gland, and unquestionably they have proven that there is a relationship between the unbalanced condition of the testicular hormones and prostatic hypertrophy.

Q.—You mean representing a change that comes about with age, this change of life you speak of? *A.*—Yes. They have discovered that in men about the age of 50 that 50 to 75 per cent of these individuals have shown a definite decrease in the male hormone in the urine. These men also presented urinary symptoms, frequency of getting up at night, difficulty in emptying their bladders, disturbances in the crotch. They also complained of a lowering of sexual vitality. After their work and studies they concluded that if there is a definite relation between the testicles and prostate and the disturbance with the secretions of the testicle, then there must be some similar way of stopping the growth of the prostate and reducing it in size than by the radical method of taking the prostate gland out entirely, so they concluded that if there was a lacking of male hormones why wouldn't it be beneficial to the patient to give him male hormones. Crile gave his patients inhibin, which is a beef extract made from the beef testis. In his series of treatments he observed a 65 per cent improvement by the giving of the male hormone itself. Another method was used and that was the giving or implantation or transplantation of glandular substances from other animals, including the human. And third was the ligation such as I have described to you on the blackboard. By ligation of all or a portion of these ducts they were able to show by the increased amount of the male hormones that appeared following their operation that they have done something to balance the physiological secretions in the testicle.

Q.—Now, do you mean to even up again the male and female hormones, is that what you mean? *A.*—Yes. The results that they obtained from this work showed by actual work done on the patients that their urinary symptoms began to decrease, that the nervousness associated with the condition, so-called change of life, began to decrease, and that they actually noted a recession or a stoppage of the growth of the prostate gland itself, and in many instances a return of sexual vitality.

Q.—Now, did you bring any of those works with you? *A.*—I have Paul Niehans' article, published February 9, 1936, in the *Lancet*.

At this point argument arose as to the introduction of periodicals and references which had been brought into court by the witnesses, including the writings of Niehans and of Lower. It was the rule of the court that such materials could not be introduced, after which the evidence proceeded:

Q.—Now, Doctor, then go ahead now. You were starting to say what you were trying to accomplish by this ligation, tying off. Go ahead and tell what effect, if any, it has when you do tie off and where it has the effect and why. Explain it in detail. *A.*—The effect of ligation aids to reestablish or balance up the hormones in the testicle. The male hormone has been found to be markedly reduced, while the female hormone remains the same. After the ligature or tying off of these ducts we are aiding the testicle to reestablish a normal balance of the secretions.

Q.—All right. Now, what effect does that have on the prostate? *A.*—It was found that when the male hormone was markedly decreased and the female hormone remained the same that there was a beginning of prostatic hypertrophy with its associated urinary disturbances.

Q.—Now, what do you mean by prostatic hypertrophy? *A.*—Enlargement.

Q.—Swelling or enlargement? *A.*—Swelling or enlargement, yes.

Q.—All right, you say you found when they got out of balance that there is then the hypertrophy or enlargement, there it begins? *A.*—Yes.

Q.—All right, then, Doctor, I will ask you whether or not you know historically and medically whether or not at one time in the history of the profession in this country in bad cases of prostate suffering whether they practiced castration of the individual? *A.*—Yes. Many years ago castration of the male, that is, removing both testicles, was practiced. An examination of those men showed that they had complete atrophy of the prostate gland.

Q.—You mean— *A.*—A complete shrinking up of the gland, that none of the male or female hormones could be identified in the urine, thus proving definitely that there is a relationship between the testicles and the prostate gland. Removing the testicle completely produced severe psychological reactions, aside from the fact that it produced sterility and impotency. So the practice was not carried out very far.

Q.—Now, then, go ahead and tell—go back to what you were trying to do, what does it accomplish with this operation of tying off some of them that you do, if you know? *A.*—The results of the operation show that the urinary symptoms decrease.

Q.—The urinary symptoms? *A.*—Getting up at night to urinate and the frequency and the distress associated with passing the urine went away and there was noted a definite reduction in the size of the prostate gland. This did not occur immediately but within the course of a few months. The prostate gland did not enlarge all of a sudden; the enlargement was gradual. The reduction is likewise gradual.

Q.—Now, Doctor, have you or not had occasion—first kill that. I want to ask another matter. With reference to the removal, the older operation of the removal of that gland or with reference to the operation which we laymen speak of as the reaming operation, the transurethral, clipping it away, taking it out, what is the object to be obtained by science, what is the reason for the removing or cutting away of that gland? *A.*—The purpose of removal of the gland is to relieve the obstruction at the outlet of the bladder.

Q.—Well, now, then, will that have the effect or tend to have the effect to stop—to enable them to empty their bladder freely and stop the pain and irritation incident to urination? *A.*—In many cases.

Q.—Is that then the reason for the removal of that gland? *A.*—Yes, sir.

Q.—Or the reaming of it out, either way? *A.*—Yes.

Q.—And, incidentally, as we go along, then this transurethral or reaming operation, you have many times performed that operation, haven't you, doctor? *A.*—Yes, sir.

Q.—In doing that do you remove the whole gland? *A.*—We remove as much of the gland as possible. In fact, we remove it all down to the capsule. The capsule cannot be removed with the transurethral resection.

Q.—What do you mean by capsule? *A.*—The capsule is a fibrous tissue that surrounds the prostate.

Q.—The bag in which it is held, isn't it? *A.*—Yes.

Q.—It is the lining or bag, you might say, that holds it? *A.*—It is the covering of the prostate, similar to the cover, fibrous capsule, around the tonsil.

Q.—Or somewhat similar to the skin that covers the skin. That is, the tissue that holds it, surrounding it? *A.*—Yes.

Q.—Now, is that removable by the transurethral process? *A.*—The capsule?

Q.—Yes. *A.*—No.

Q.—All right. Now, with reference to the purpose, then, of these operations, you say the purpose is to reduce that enlarged prostate so as to relieve the pressure on the neck of the bladder, is that right? *A.*—That is right.

Q.—All right. Now, how do you accomplish that by the operation that you perform now, this Dr. Brinkley operation we speak of? How do you accomplish that without removing the gland? *A.*—After the secretions or hormones of the testicles are balanced or they become fairly balanced we note that because of the relationship between the testicles, the testis, and these secretions that there is a definite association there with the prostate, and by normalizing or by balancing up this physiological unbalance the prostate gland slowly reduces in size.

Q.—Now, is that sufficient to give the relief necessary? *A.*—It is in a great many cases. If the patient has a complete obstruction at the neck of the bladder because of an enlarged prostate and comes to us with a catheter in the urethra or a large amount of residual urine we perform a transurethral resection because the patient has advanced too far, the hypertrophy has increased too far. The patient needs relief immediately from his urinary obstruction. Then we do a transurethral resection. But in the earlier stages of prostate enlargement, before a large amount of residual urine is found in the bladder, it can be done.

Q.—What do you mean by residual? *A.*—The amount of urine left after the patient voids.

Q.—That is, left after he urinates, you call that the residual? *A.*—Yes, sir. In those cases the ligation operation such as I have described to you on the blackboard will aid in establishing a normal balance of the glandular structures and he will get a slow reduction in the prostate.

Q.—All right. So, now, that is the good you are trying to seek by the operation? *A.*—Yes.

Q.—Does that relieve not only this urinary trouble, but then does that have the effect to relieve the pains that the patient suffers from before that? *A.*—Yes, it does.

Q.—Now, what ailments have you found in your experience flow or follow from these enlarged prostate troubles, what effect does it have physically on the individual or may it have? *A.*—The immediate effect on the urinary tract is that the bladder becomes infected, the urinary bladder sooner or later becomes infected by the urine that stagnates in the bladder.

Q.—Now, infected. What does that do when it gets infected? *A.*—Organisms in the urine, germs in the urine.

Q.—Does it produce soreness? *A.*—Soreness, inflammation, swelling of the mucous membrane or lining of the bladder. The attempts on the part of the bladder to empty itself produce strain; after a while this straining weakens the bladder wall and the muscle fibers tend to separate and allow the interlining of the bladder to bulge through between there and form little pockets in the wall of the bladder. The continuation of urine in the bladder finally leads to the formation of diverticulae. This is a large pouch. Sometimes it assumes the proportion of three and four times the size of the bladder. It is then the kidneys in turn become damaged, and you have hydropyonephrosis, pyelitis and nephritis.

Q.—Now, you are talking about pyelitis—nephritis. Nephritis is Bright's disease? *A.*—Yes, disease of the kidneys.

Q.—What is pyelitis? *A.*—Inflammation or infection of the pelvis of the kidney. The pelvis of the kidney corresponding to a funnel in shape, the small end connecting with the tube that carries the urine from the kidney to the bladder.

Q.—All right. Now, may or may not that produce or does it frequently produce pains in the patient? *A.*—Yes.

Q.—Where? *A.*—In the back, especially in the lumbosacral region. That is the lower portion of the back, the region of the kidneys and below. And pain in the crotch and perineum and pain just above the pubic bone over the bladder region and pain in the prostate region.

Q.—And, now, may or not that condition spread until it causes rheumatism, or does it often? *A.*—Yes, the absorption of poisons from the urinary tract, from the prostate gland, have often produced rheumatic aches and pains in other parts of the body.

Adjournment to afternoon session.

Questions by Mr. Morriss Sr.:

Q.—Doctor, I believe I had been asking you about what was the manner of this tying off operation to reduce the prostate. *A.*—The ligation of the ducts or tubes prevents hormones from escaping into the seminal fluid, and they are forced to be reabsorbed by the little veins in the tunic or lining of the testicle, thereby remaining in the circulation.

Q.—Instead of escaping, you mean? *A.*—Yes, sir.

Q.—Otherwise the tendency would be to escape in the urine? *A.*—They would be lost and escape through the seminal fluid, but they are reabsorbed in the blood stream, and in examining the urine the male and female hormone is recovered in about equal proportions.

Q.—Balanced, in other words? *A.*—Yes, sir.

Q.—That results, you say, in the reduction? *A.*—Yes, sir, of the prostate.

Q.—Of the size of the prostate, and has a tendency to bring back to normal size the prostate? *A.*—Yes, sir.

Q.—Now, this question, while we are on it: How long were you with Dr. Brinkley in his performance of those operations before you yourself commonly, or at all, did operations, did the same operation? *A.*—Three years.

Q.—Three years? *A.*—Yes, sir.

Q.—During that time were you with him constantly and assisting him in his performance of the operations? *A.*—Yes, sir.

Q.—During that three years, as nearly as you could estimate it, because I don't suppose you know the number, do you, and you haven't looked up that and don't know the number, do you? *A.*—Approximately 1,000.

Q.—And as nearly as you could state, about how many of those operations, that particular operation, did you see him perform; or in other words, how many times and on how many people did you see him perform that operation within the three years before you did it? *A.*—Several thousand.

Q.—You mean in all or before you did it yourself? *A.*—Before I did it.

Q.—What did you mean by the one thousand a minute ago. *A.*—That was the number that I did during 1936 and, approximately 1936 and 1937.

Q.—You misunderstood me on that. At any rate, you had seen Dr. Brinkley perform several thousand of those operations before you performed them without his assistance? *A.*—That is right.

Petermeyer stated that he had assisted in operating on some 3,000 cases, and that, following these operations, symptoms of prostatitis appeared to diminish, and that there was actual reduction in the size of the gland. He stated also that from 90 to 95 per cent of the patients had returned and had developed improvements, and in all 10 per cent had had no relief. He stated also that it was customary to say to patients with advanced cases of enlargement that the simple ligation operation might not bring about relief and that it might be necessary to remove the prostate by transurethral resection. He stated that this had been the custom in 5 per cent of the cases.

Petermeyer also stated that it was customary to reject all cases in which there was a possibility that the condition was malignant. He also said it was customary to take a specimen for purpose of biospy when there was a question as to malignancy and that such patients, when cancer is found, are told to go elsewhere.

He said also that in the hospital there were rectal treatments and hernia treatments, that proctology was in charge of Dr. Hilburn and also in charge of Dr. Louis Kline and that the results were uniformly good.

He also said that some of the patients who had not been able to pay were operated on without pay.

Petermeyer also said that white cell counts were made before the solution 1020 was injected, and that it was found that the injection of this solution brought about an increase in the white blood cells, and that this was valuable in overcoming infection. He also said he did not know how it brought about this effect.

Petermeyer also stated that there were three strengths of hydrochloric acid 1:250, 1:500 and 1:1,000. He stated that patients coming into the hospital remain until they are ready to dismiss them, and that there is no definite time for patients to remain in the institution and that during their stay in the hospital the patients visit freely with one another.

Objection was taken by counsel for the American Medical Association to this testimony on the ground that in making this statement the article referred to the practice in Kansas and not to that in Little Rock.

Petermeyer testified that in many instances the complete procedure is not carried out on the patient, but that the procedures differ with different patients, also that the charges vary according to the procedures.

Petermeyer also stated that he had used the ampules in many instances and that the statements published in the article relative to the ampules were not true. He also stated that between twelve and fifteen doctors and between thirty and forty nurses had been associated with Brinkley during the time that he had been associated with him.

CROSS EXAMINATION BY MR. REYNOLDS

In the cross examination, Mr. Reynolds asked Petermeyer whether or not he personally had any faith in the goat gland operation for the purpose of reduction of high blood pressure, and for the purpose of reduction of the size of the prostate. The witness objected to answering the question on the ground that he had not performed any such operation.

Q.—I am asking for your opinion, and I will ask that you answer yes or no? *A.*—I am not going to give you my opinion, because the only opinion that I have is the opinion that I obtained from Dr. Paul Neihans and Elliott Smith and others who have done gland implantations.

Q.—I am asking you in your opinion as a medical man, a medical student, at least, have you any faith in the transplantation of a goat gland in a human in that method as reducing the size of the prostate? *A.*—I wouldn't answer that question on the grounds that I wouldn't be in a position to.

Q.—Then, you don't know whether you have any faith or not—do you have any faith in it for reducing high blood pressure? *A.*—I don't know that it has been used for the reduction of high blood pressure.

Q.—Well, if it has have you any faith in it? *A.*—The high blood pressure is caused by glandular disturbances.

Q.—I don't want to argue with you—

Mr. Morriss Sr.:—We will have to ask the young gentleman to let the Doctor get a short ways in the answer before he interrupts him.

THE COURT:—As I understand it, he asked the question "have you got any faith in the goat gland operation for reducing high blood pressure," and I wouldn't confine him to a yes or no answer; he could say he did or he didn't, and then he could make his explanation, but the way he started out he didn't start to answer the question "yes"; answer the question, and then, if you want, make an explanation; you can do that, and nobody is going to be trapped here, and you can't be trapped, you can't trap a man with a yes or no answer.

A.—State your question again.

Q.—I want to know if you have any faith in that operation as reducing high blood pressure? *A.*—Indirectly, yes.

Q.—Have you any faith in it as a treatment for hardening of the arteries? *A.*—I don't know.

Q.—Have you any faith in it as a means of creating additional energy in man? *A.*—Yes, sir.

Q.—Have you any faith in its cure for epilepsy? *A.*—No, sir.

Q.—As a cure for syphilis? *A.*—No, sir.

Q.—Locomotor ataxia? *A.*—No, sir.

Q.—As any treatment for prostatitis? *A.*—No, sir, unless it is associated—well, prostatitis and true prostate hypertrophy are two different things.

Q.—That is true. I asked you about the one first, and I want the prostatitis, the inflammation? *A.*—I don't believe so.

Q.—Dementia praecox? *A.*—Indirectly, yes.

Q.—Diseases of the stomach, bowels and kidneys in general? *A.*—Perhaps not the stomach and bowels, but the kidneys indirectly and the adrenal glands indirectly.

Q.—Sterility? *A.*—I don't know.

Q.—How about sterility caused by mumps? *A.*—Gland implantations wouldn't change that.

Q.—Now, Doctor, I have enumerated several things over here, and suppose we change from the goat gland operation and now consider the operation which you have described and which you call the ligature method, would your answers to any one of those be any different than they were regarding the goat gland operation? *A.*—I don't know as I understand your question.

Q.—Well, would this ligature operation that you have described, in your opinion, have an effective treatment for the high blood pressure, that is, the ligature operation itself? *A.*—Indirectly.

Q.—Arteriosclerosis? *A.*—Indirectly.

Q.—Impotency? *A.*—Yes, sir.

Q.—It would cure sterility caused by mumps? *A.*—No, sir.

Q.—Epilepsy? *A.*—Indirectly.

Q.—How about locomotor ataxia? *A.*—No, sir.

Q.—That is caused by syphilis, isn't it? *A.*—Yes, sir.

Q.—General anemia? *A.*—Yes, sir.

Q.—Would the ligature method have any effect on curing prostatitis? *A.*—I don't know.

Q.—Well, now, you have been working with the prostate gland, and don't have any opinion on it? *A.*—Well, yes, sir.

Q.—All right, tell my why? *A.*—Why?

Q.—Yes, sir. What is there in that ligature process that would be a treatment of any kind for prostatitis? *A.*—All right, with your prostatitis you have your associated hyperplasia of the prostate cells, and your ligature method will aid in reduction of that hyperplasia but would have no effect directly on the organs or the infection involved in the prostatitis.

Q.—You mean to say there is also hyperplasia in prostatitis? *A.*—There is always inflammation and swelling.

Q.—Not hyperplasia—that is only one type, isn't it, Doctor? *A.*—Hyperplasia, there are several types.

Q.—You also have hyperplasia when you have the condition you described as prostatitis? *A.*—Yes, sir.

Q.—You know that isn't right? *A.*—You can have prostatitis without hyperplasia.

Q.—How about as a treatment for constipation, does your ligature affect that? *A.*—It is not a treatment for constipation.

Q.—Doctor, you have done a considerable amount of research and study since you have testified here Wednesday, haven't you, as regards these urinary organs? *A.*—No, sir.

Q.—You haven't at all? *A.*—No, sir.

Q.—On Wednesday didn't you testify that there were fifteen or twenty of these little efferent ducts between the testes and the epididymis? *A.*—I did.

Q.—Today you have changed your opinion to twelve to twenty? *A.*—A man can change his opinion.

Q.—That is all it is—that is all I want to know. You haven't done any particular reading in the field of chemistry since you appeared here, have you? *A.*—No, sir.

Q.—Didn't you testify Wednesday that 1020 meant a chemical formula of 1,000 parts of water to 1 per cent of hydrochloric acid? *A.*—No, sir.

Q.—What was it? *A.*—I told you some of the constituents of the ampule.

Q.—Weren't you asked what 1020 designated and you said it was the chemical formula of 1,000 to 1? *A.*—Hydrochloric acid?

Q.—Didn't you say that Wednesday? *A.*—I stated the number of constituents of the ampules, but I made no definite statement as to the percentage that those ampules definitely contained.

Q.—You didn't say anything about 1,000 to 1? *A.*—Yes, sir.

Q.—And you said the 1020 was a formula indicating that, didn't you? *A.*—No, sir.

Q.—It can be any percentage and still be 1020? *A.*—No, sir. Those formulas are made according to a standard formula, and they don't vary.

Q.—Didn't you a few minutes ago say they did vary, and you use sometimes 250 to 1 and sometimes 500 to 1 and sometimes 1,000 to 1? *A.*—Not in the 1020.

Q.—Isn't that what counsel was asking you about? *A.*—I don't remember.

Q.—You have a different designation for the other formulas? *A.*—Yes, sir.

Q.—1020 is always 1,000 to 1? *A.*—To be positive, I don't know the proportion of hydrochloric acid in the ampules.

Q.—You have those other formulas by different numbers in connection with your work now, do you? *A.*—Yes, sir.

Q.—Did you have when you were practicing here in Del Rio? *A.*—Yes, sir.

Q.—Do you know what the proportions are at all of any one of them? *A.*—No, sir.

Q.—You administered them to the patients yourself? *A.*—Yes, sir.

Q.—You administered something to the patients that you didn't know what was in it? *A.*—Yes, sir.

Q.—Do you think that is good practice? *A.*—There is no doctor who knows exactly what is in the ampule, every ampule that he is introducing into a vein; the formula is not on the ampule.

Q.—You didn't have an idea how much hydrochloric acid was in either one? *A.*—I had a suspicion about the amount, yes, sir.

Q.—What would determine whether you would use 1,000 to 1 percentage or 200 to 1 percentage? *A.*—Nothing in particular.

Q.—Just use anything, the handiest one? *A.*—One to 250 or 1 to 500 strength will bring quicker results than the 1 to 1,000 or the 1 to 1,500 or the 1 to 2,000.

Q.—Why is there any point in ever using the 1 to 1,000, then? *A.*—Well, that could be a matter of a doctor's opinion.

Q.—Well, why is it— *A.*—There are occasionally some slight reactions from using a more concentrated solution; I have seen some chills and rigors from giving 1 to 250 or 1 to 500; it seldom occurs with a solution of 1 to 1,000.

Q.—Do you know why that is? *A.*—Yes, sir.

Q.—Why is it? *A.*—Because it produces too instantaneous a reaction.

Q.—Yet, it didn't make any difference to you which one you used? *A.*—I didn't say that.

Q.—Well, tell me what it was you said. I am not trying to trap, you, Doctor, I just want to get at what you did and why you did it? *A.*—We gave 1 to 250 if the patient could tolerate it, that is when we used the hydrochloric acid in the 1020; but I don't know what the percentage of HCl is.

Q.—Are you sure there is any HCl in it? *A.*—I believe there is.

Q.—Are you sure? *A.*—I am not positive.

Q.—As a matter of fact, 1 per cent of HCl to 1,000, why, that isn't much different than distilled water? *A.*—There is that difference.

Q.—Is there any difference in the specific gravity of the two? *A.*—I am not a chemist, and I couldn't answer that.

Q.—Did you say the results you claimed to have obtained by injecting this hydrochloric acid solution would be obtainable by distilled water? *A.*—No, sir.

Q.—Would it be obtainable by the 1,000 to 1 solution? *A.*—There would be a slight increase of the white cells.

Q.—That wouldn't be from the use of one tube or ampule? *A.*—Not from 1 to 1,000.

Q.—Six ampules? *A.*—Yes, sir.

Q.—How much? *A.*—Increase the white blood cells double that amount.

Q.—Would there be an increase of the white blood cells after you use distilled water? *A.*—I haven't tried it.

Q.—Have you an opinion? *A.*—I don't know.

Q.—Now, Doctor, when you testified here on Wednesday were we justified in assuming from your testimony that you meant you ligated a separate duct at any time? *A.*—No, sir, not any separate duct.

Q.—How do you determine how many of them you are going to tie off? *A.*—We can't determine exactly; the needle is introduced through the central portion, and we assume that about half of them are ligated.

Q.—You can feel those with your hand? *A.*—Yes, sir, you can, collectively you can.

Q.—But you can't feel number one and number seven and number nineteen? *A.*—No, sir.

Q.—You didn't mean to leave that impression Wednesday? *A.*—We don't call them out by numbers; we know there is an average of fifteen of those ducts there, and if the ligature is thrown completely around it you ligate all of them, and if the needle is passed through the central portion we get about 50 per cent of them.

Q.—Wednesday you testified, didn't you, that the reason you ligated them is because you found nodules in them, that is, when you tied them off you found nodules by feeling? *A.*—There might be a nodule.

Q.—Didn't you testify that is the reason you tied them off? *A.*—There might be nodules.

Q.—Answer the question.

Mr. Morriss Sr.:—Now, he said "didn't you testify so and so."

Mr. Reynolds:—I will withdraw it.

Mr. Morriss Sr.:—We deny that.

THE COURT:—He can answer the question.

A.—Yes, sir.

Mr. Reynolds:—I will withdraw it.

Q.—Suppose you find a nodule, one on the extreme end and one on the extreme other end of that group, what about that? *A.*—Probably would.

Q.—So, if you ever found more than one nodule you would tie up the whole group? *A.*—Yes sir.

Q.—And that results in sterility? *A.*—On that particular side.

Q.—Have you ever seen a case where you just found one nodule in that group? *A.*—Yes, sir.

Q.—Isn't it a fact if there is one there is more? *A.*—There could be one or more.

Q.—What causes that? *A.*—Nodules?

Q.—Yes, sir. *A.*—Infection and stoppage of the duct.

Q.—And it is your opinion that that will usually occur in only one duct at a time and may have no connection with the other ducts? *A.*—It may occur in one or more ducts.

Q.—Now, how do you determine whether you are going to tie off five of them or eight of them or what? *A.*—If we find that there is considerable involvement of the epididymis on the first side we ligate all of them, but before the operation is begun we attempt to determine which side is involved the most, and if it is the right side we operate on the right side first, and if it is the left side we try to leave the better side of the two without ligation of all the ducts.

Q.—Now, how large are those ducts? *A.*—They are about the size of a lead in a pencil.

Q.—Do you know Dr. Folsom who is professor of urology of Baylor in Dallas? *A.*—Yes, sir.

Q.—Do you know whether or not he is recognized as an authority—

THE COURT:—You can't ask one witness to pass on the credibility of another witness.

Q.—Have you the opinion, Doctor, that you are able to see these ducts by the mere looking at the tissue? *A.*—No, sir.

Q.—Manipulating them? *A.*—No, sir; you can't see the ducts individually.

Q.—They squeeze together when you twist them? *A.*—Yes, sir.

Q.—Yet, you can feel them? *A.*—In a group.

Q.—You can feel the whole group? *A.*—Yes, sir.

Q.—You testified Wednesday that in the ordinary operation seven or eight of them were ligated or tied off? *A.*—Yes, sir.

Q.—Now you mean that that is all in a group? *A.*—That would be half of the group on one side.

Q.—All right, now, Doctor, does the tying off of all of those produce sterility? *A.*—Yes, sir.

Q.—Now, sometimes in connection with your ligature operation you tie off all of those, and then go on farther up in this line where the sperm proceeds and you take a section out of the vas deferens? *A.*—Yes, sir.

Q.—When you take a section of the vas deferens out, that alone produces sterility, doesn't it? *A.*—Yes, sir.

Q.—When you ligate all of the ducts alone, without touching the vas deferens, that produces sterility? *A.*—If the ligature is placed around tight enough.

Q.—You always place them tight enough? *A.*—Yes, sir.

Q.—There is no point in putting it on there loose? *A.*—I wouldn't think so.

Q.—What, then, is the purpose of taking out a part of the vas deferens tube up here after you have already cut off all of these little ducts down here? *A.*—When we attempt to inject the mercurochrome in the vas deferens and it is blocked at the point of injection, we draw down on the approximate portion of the vas deferens endeavoring to get above the obstruction in the vas and if we are successful in doing so we inject the mercurochrome, and if we are not, if this vas is full of cheesey pussy material, we remove as much of it as we can clear down to the head of the epididymis because it is an area of infection, the tube is no longer useful to the patient, he is already sterile and blocked.

Q.—If you found that vas wasn't clogged up at all after you tied all of the ducts you wouldn't touch the vas, would you? *A.*—No, sir.

Q.—Now, Doctor, you were explaining a while ago about tying off these ducts, that it then retained a certain substance in there, and what is that substance? *A.*—Seminal fluid.

Q.—Is that the only secretion of the testes? *A.*—Testicular fluid.

Q.—As a matter of fact, there are two different types of secretion, the internal and external secretion, in that organ, aren't there? *A.*—There are two secretions.

Q.—All right, now, the internal secretion is the one that goes through these little ducts up into the vas and up into the seminal vesicle, or is it the external? *A.*—Internal.

Q.—Is that the one that contains the hormones? *A.*—Yes, sir, one of them.

Q.—Does the external also contain hormones? *A.*—One contains the female and the other the male.

Q.—Which is which? *A.*—The cells from the interstitial—

Q.—I am asking whether the internal or the external secretion contain the female or the male? *A.*—The internal contain the female.

Q.—All right, then, when you tie off all of the ducts you are merely preventing the female hormone from getting up into the vas, and, so, according to that— *A.*—No, sir, you are not; after you—state your question again; perhaps I didn't understand exactly what you meant. Do you mean that this hormone escapes through the seminal fluid to the seminal vesicle or to the blood stream?

Q.—I asked if there is any difference in where the external and the internal secretions escape? *A.*—The secretions escape through the seminal fluid.

Q.—Both internal and external? A.—I don't know.

At this time the court recessed until the afternoon session.

Questions by Mr. Reynolds:

Q.—Dr. Petermeyer, where in your opinion is the sex hormone introduced into the human body? *A.*—In the germinal epithelia.

Q.—And that means the testes? *A.*—Yes, sir.

Q.—And, then, whichever secretion it is that goes through the ducts and goes up into the seminal vesicle and out the body in the usual course, that takes that hormone right along with it? *A.*—No, sir.

Q.—What happens? *A.*—It is taken up by the circulation.

Q.—Both male and female? *A.*—Yes, sir.

Q.—None of them go through the little tubes at all? *A.*—None of the internal secretions, no, sir.

Q.—None of the hormones? *A.*—I don't think so.

Q.—Then, why do you tie off the efferent duct in an attempt to keep the hormones in the body if none of them ever went out there in the first place, that is all I want to know? *A.*—You are not ligating those ducts to keep the hormones in the body, you are ligating the ducts to produce a congestion of the cells so that they can, so to speak, regenerate and start the secretion of male hormone.

Q.—In other words, those very cells that used to secrete the part that goes out through them now discharge that duty and start another one, is that it? *A.*—No, sir.

Q.—They die? *A.*—No, sir. There is a regeneration of the epithelium, which produces the hormones.

Q.—It takes the place of the other one, or what is that regeneration? *A.*—It regenerates the cellular structure.

Q.—What is produced by the interstitial cells? *A.*—An internal secretion.

Q.—Containing no hormones? *A.*—Yes, sir.

Q.—And does it go out through the ducts? *A.*—Through the circulation.

Q.—Then, you didn't mean to imply this morning at all that you were tying those off for the purpose of preventing the escape of a hormone? *A.*—No, sir.

Q.—You think that tying them off does prevent the escape of a hormone? *A.*—Tying them off does, as I stated before, produce a congestion of the epithelial cells which produce the hormones, and these hormones are absorbed by the circulation and do not pass out through the testicular fluid.

Q.—There is no idea which hormone is going to be produced, is there, the male or the female? *A.*—Yes, sir.

Q.—Which produces which? *A.*—You mean which cells produce which?

Q.—Yes, sir. *A.*—The interstitial cells produce the female hormones.

Q.—And what produces the male? *A.*—The germinal epithelia.

Q.—Now, the literature you referred to this morning about increasing or decreasing hormones had nothing to do with your operation, did it? *A.*—Yes, sir.

Q.—Wasn't that literature regarding the injection of a hormone secretion? *A.*—It was regarding three things, the injection of a hormone secretion, the implantation of glandular substances and the ligature operation.

Q.—Who wrote up that ligature operation? *A.*—Paul Niehans.

Q.—Did this man Lower that you relied on so much— *A.*—Lower made the conclusive statement that 65 per cent of his patients who had received the glandular substances alone responded to treatment.

Q.—You didn't mean to imply that Lower performed the ligature operation? *A.*—I did not.

Q.—As a matter of fact, the only operation he performed, if any, in that regard is the taking of a section out of the vas deferens? *A.*—I don't know.

Q.—In that connection, Doctor, I will ask you if you didn't the other day when you were on the stand make this answer to the question, which I will read: "Question: Do you know of any other recognized doctors in the United States that use the technic of operation that you have here described? Answer: Yes, sir. Question: Who are they, please?" and then we have this business about you didn't have their consent to divulge their names, and you recall that, and then "Question:"—well, the answer was "I do not have the consent to divulge their names, but I can give you one whose article has appeared in literature published by the institution. Question: By which institution do you mean? Answer: From the Crile Clinic in Cleveland, Ohio." *A.*—The answers I gave was with reference to the use of glandular extract.

Q.—The first question there related to this operation, didn't it? *A.*—I don't know whether Lower has experimented—

Q.—You didn't mean to tell the jury at all that Lower had ever done this ligature operation and claimed the things for it that you claim, did you? *A.*—I don't remember.

Q.—Do you mean that now? *A.*—I do not.

Q.—Now, Doctor, this injection of the hormone extract, upon which you based your opinions before, how was that extract prepared, from what? *A.*—You mean how—it is the extract you are talking about?

Q.—I mean what is the substance they use to make a sex hormone or isolate it or get it, or whatever it is? *A.*—Use glandular tissue. There are some synthetic hormones that are made without the use of glandular tissue.

Q.—How are those made? *A.*—I don't know.

Q.—You don't know whether they are made from urine? *A.*—I have never gone into the chemistry of how those preparations are made.

Q.—You don't know whether it is possible to make them from urine? *A.*—I believe it is.

Q.—And why is that? *A.*—I don't know—because they appear there, for one thing.

Q.—In other words, they are taken into the circulatory system and then they get into the bladder? *A.*—Yes, sir.

Q.—They don't go through the vas deferens? *A.*—No, sir.

Q.—Doctor, did you mean to imply that Dr. Lower agreed—that he advanced the theory that cutting out a section of the vas reduces the size of the prostate? *A.*—I don't know.

Q.—You didn't mean to imply that at all? *A.*—No, sir.

Q.—Now, then, this substance that you referred to this morning in your description of how and what the sex hormones function is, was inhibin? *A.*—Yes, sir.

Q.—Who was it that wrote about that? *A.*—Lower.

Q.—And how was that administered? *A.*—Orally; I believe orally, by mouth.

Q.—You didn't say this morning that it was administered by injection into the veins? *A.*—I don't believe so.

Q.—You were wrong if you did? *A.*—Yes, sir, if I made that statement I was wrong.

Q.—Have you ever injected it? *A.*—No, sir.

Q.—Never had an opportunity to observe its effects, then, in any manner? *A.*—Not personally.

Q.—Now, in tying off the tubules back there, again, does that cut off the blood supply to the testes? *A.*—No, sir.

Q.—Now, Doctor, in the treatments that you give at Dr. Brinkley's hospital, or that you gave prior to 1938, did I understand you to say that you reject cases where a prostate has cancer? *A.*—If we know it, yes, sir.

Q.—You don't purport to treat that? *A.*—No, sir.

Q.—You send them to somebody else? *A.*—Yes, sir.

Q.—That somebody else is a doctor there in Little Rock? *A.*—We have told some patients about Dr. Marshall's Hospital, yes, sir.

Q.—Is Dr. Marshall an eclectic doctor, if you know? *A.*—He is.

Q.—Does Dr. Marshall have anything to do with the Eclectic Board of Arkansas, if you know? *A.*—I don't know.

Q.—Now, how is it that you determine that a prostate has cancer when the patient comes to your hospital? *A.*—Examining the prostate with the index finger, and the cancerous prostate often feels nodular, with areas of increased density and stoney-like hardness, and the gland is usually adhered, so much so that it is not movable in the least.

Q.—In other words, you determine it yourself, do you? *A.*—No, sir.

Q.—Well, the doctor that is doing the operating? *A.*—We usually use laboratory tests to determine the tissue we are examining.

Q.—You have pathologists to determine that? *A.*—Yes, sir.

Q.—Who is that? *A.*—Kirschberg.

Q.—I thought you said yesterday that he was a licensed laboratory technician? *A.*—He is under Dr. Chandler, who is.

Q.—Is what? *A.*—Head of the laboratory, in charge of the laboratory.

Q.—Is he a pathologist? *A.*—Yes, sir.

Q.—Is he a member of the American Association of Clinical Pathologists? *A.*—I don't know.

Mr. Morriss Sr.:—We object to that as irrelevant and immaterial. We have an idea, and you might let us suppose, for instance, that he might be, and at the moment he went with Dr. Brinkley they discharged him from that.

Mr. Reynolds:—I will withdraw it. It is immaterial.

Q.—Doctor, when you were here in Del Rio you yourself attempted to determine by this method that you have described whether a person had a cancered prostate or not? *A.*—No, sir.

Q.—Do you know anything about cancer? *A.*—Very little.

Q.—Did you ever attempt to treat a patient that was reported to you to have cancer? *A.*—No, sir.

Q.—Now, Doctor, previously in your testimony you referred to the Steinach operation, and the Steinach operation doesn't have anything to do with making the sutures in the ligature at all, that you are talking about, does it? *A.*—It has to do with the ligature.

Q.—Not with the ducts? *A.*—Yes, sir.

Q.—Isn't it a fact that that is merely cutting out a portion of the vas? *A.*—Not the Steinach No. 2; it is a ligation.

Q.—Of what? *A.*—The head of the ducts: you are ligating all of the ducts but not the vas deferens; you are ligating the portion of the epididymis known as the head of the epididymis, where all of the ducts end and terminate in the head of the epididymis.

Q.—It is an entirely different thing from your operation.? *A.*—No, sir.

Q.—It is the same? *A.*—Yes, sir.

Q.—And that you identify as the Steinach No. 2? *A.*—The Steinach No. 2 is where they are all ligated at that point, and we modify that when we ligate only part of them.

Q.—Now, Doctor, on your direct examination here counsel asked you if patients were allowed to come and go, pay or not pay, as you please, to which you answered "yes," and is that the correct answer to that? *A.*—To come and go, and those who aren't able to pay and can't pay, some of them don't pay.

Q.—You generally find out beforehand whether they are going to pay? *A.*—We have no way of knowing what their financial rating is.

Q.—Isn't that your job now? *A.*—No, sir. It was.

Q.—You quit doing that entirely? *A.*—Yes, sir.

Q.—When did you quit that? *A.*—I haven't done that since I was in Del Rio; I did some of that work when I was here.

Q.—I thought you had only been the business manager since you were in Del Rio? *A.*—I am in charge of a different line of work in Little Rock than I was here; I am the business manager there where the charts are kept and where the correspondence is kept.

Q.—You did that in Del Rio? *A.*—Yes, sir.

Q.—And you practiced medicine here, didn't you? *A.*—Yes, sir.

Q.—You have a license in this state, don't you? *A.*—Yes, sir.

Q.—Do you have one in Arkansas? *A.*—No, sir.

Q.—Who has taken over the work that you did down here now? *A.*—Dr. Osburn and Dr. Brinkley.

Q.—So you haven't got a license in Arkansas? *A.*—No, sir.

Q.—And he hasn't got a license in Texas? *A.*—I don't think so.

Q.—So, when you move you two just switch around, is that it? *A.*—Yes, sir.

Q.—Now, with regard to your claim that this hydrochloric acid solution may combat infection and increase the white blood cells, isn't it a fact that infection itself is often marked by an increase in white blood cells? *A.*—Yes, sir.

Q.—Now, Doctor, referring to the prostatic enlargement where there is difficulty with urination, when you take a man in that condition, put him in bed for a week and let him get a good rest, that in itself will somewhat relieve that condition, won't it? *A.*—If it is prostatitis it will.

Q.—I said prostatic enlargement. *A.*—No, sir. If it does, it is only temporary.

Q.—Now, if you put him in bed—well, it will do it, though? *A.*—Temporarily he may get some relief.

Q.—Now, suppose you take off the urine at the same time, the residual urine, and let him have that week of rest, it has a more permanent effect, doesn't it? *A.*—It makes the rest in bed more effective when the catheter is introduced and the bladder is depressed slowly, and the—yes, sir, he improves from that alone, but the improvement is only temporary.

Q.—Now, Doctor, can you tell us what is the function of the prostate gland? *A.*—The only function that I know of is that the description that was given was that it is an accessory sexual gland, the secretions of which augment the seminal fluid or add to it.

Q.—How does the secretion of the prostate gland get to the seminal fluid? *A.*—In the urethra.

Q.—In other words, the seminal fluid, and the semen itself, never does go into the prostate gland, does it? *A.*—The seminal fluid only goes through the ejaculatory duct.

Q.—And that goes through the prostate gland? *A.*—Yes, sir, the ejaculatory duct passes through the prostate gland, but the tube just passes through and there is no opening from the ejaculatory duct into the prostate gland.

Q.—That is just like a hole through it? *A.*—Yes, sir.

Q.—It doesn't circulate throughout the gland? *A.*—Yes, sir.

Q.—And it runs into the urethra by a separate tube? *A.*—Yes, sir.

Q.—And, then, the prostate gland itself, a little lower down, has another tube of the same nature that runs into the urethra? *A.*—There are a number of small ducts.

Q.—Incidentally, did Dr. Brinkley originate what you referred to as the injection method of treating hernias? *A.*—No, sir.

Q.—In fact, that is quite common, isn't it? *A.*—It is.

Q.—It is nothing particularly in your specialty at all? *A.*—No, sir.

Q.—What percentage of the patients that come to you do you advise to go somewhere else? *A.*—From 5 to 10 per cent.

Q.—What per cent have cancer? *A.*—I don't know.

Q.—You mean that your hospital—Dr. Brinkley advertises over the radio, people come to him for treatment and you tell them to go some place else in 10 per cent of the cases? *A.*—I can't give you the number or the percentage of the patients, I don't have that in mind.

Q.—Isn't it a fact that 20 per cent of the enlarged prostates are caused by cancer or accompanied by cancer, at least 20 per cent? *A.*—I don't know what the percentage is.

Q.—Well, have you an opinion? *A.*—That all depends on the age of the patient—

Q.—You don't want to state. If you don't want to state, say so.
A.—State the question again.
Q.—I said what percentage of all cases of enlargements is a cancerous enlargement? *A.*—From, perhaps, 10 to 20 per cent.
Q.—But only 10 per cent you send away—. Now, Doctor, you testified that after a patient has been at your hospital a week, now, he stays around, oh, as many days longer as he can or as is necessary, and isn't it a fact that you charge them $35 a week for that, though? *A.*—Our hospital charges $35 a week.
Q.—You were with Dr. Brinkley in 1933, and was Dr. Brinkley advertising over the radio then, if you know? *A.*—I believe he was giving health talks over the radio at that time.
Q.—You call a health talk a talk where he asks patients to come and be treated by him? *A.*—They are asked to come for an examination—why, yes.
Q.—That is a health talk, in your idea of the word? *A.*—Yes, sir.
Q.—He was broadcasting at that time over XER? *A.*—Yes, sir.
Q.—Is he broadcasting over it now? *A.*—Yes, sir.
Q.—It is a different name now? *A.*—XERA, I believe.
Q.—Was there any space in there that he didn't broadcast over that station? *A.*—I believe the station was shut down for repair work, or something, for a while.
Q.—Just for repair work? *A.*—So far as I know.
Q.—You don't know anything about an effort to take him off of the air at that time? *A.*—No, sir. I haven't paid much attention to the radio part, and I can't tell you.
Q.—Doctor, do you refer to the broadcasting that Dr. Brinkley continues to do as health talks? *A.*—Yes, sir, I would. One of the witnesses who sat in this chair yesterday, a specialist from Dallas, said that Dr. Brinkley's health talks had made men of this country prostate conscious, and that they were now going to urologists in earlier stages of the prostate development than they were previously, and, consequently, his business had been markedly improved and increased.
Q.—Where did you get that information? *A.*—Right in this building yesterday.
Q.—You weren't in the courtroom? *A.*—No, sir.
Q.—Doctor, in connection with a health talk, is it still a health talk when Dr. Brinkley tells people to send him the names and addresses of two or five people that then are suffering from prostate trouble and who are financially able to attend the Brinkley Hospital?
Mr. Morriss Sr.:—I think that is argumentative and calling for an opinion and conclusion of the witness.
THE COURT:—Sustain the objection.
Q.—You know that Dr. Brinkley does make such broadcasts as that? *A.*—I believe so.
Q.—And, yet, you tell us that your business doesn't come by mail? *A.*—The attention of the people is brought to bear by the radio.
Q.—Then the names come into you, and what do you do then? *A.*—These patients, as a rule, write and want to know of some one who has been to our hospital for treatment.
Q.—We are not on my question. Maybe you didn't understand. Dr. Brinkley advertises for people to send him names of other persons, then those names come in, do they not? *A.*—Yes, sir.
Q.—You get communications of that kind? *A.*—Yes, sir.
Q.—People who are supposed to be suffering from some condition that you can treat and who are financially able to come to the Brinkley Hospital? *A.*—Yes, sir.
Q.—What do you do with those names? *A.*—We send them one of our booklets.
Q.—Through the mail? *A.*—Yes, sir.
Q.—Have you got much response from those people? *A.*—Sometimes.
Q.—Write them letters? *A.*—If they write to us.
Q.—You say that is one of the effective means of your advertising? *A.*—It is part of it.
Q.—Well, is the effect—do you get patients from it? *A.*—Yes, sir.
Q.—And you write follow-up letters if they don't answer the first one, don't you? *A.*—I don't know about that.
Q.—You are not doing any of that work yourself? *A.*—No, sir.
Q.—Have you ever? *A.*—I did—no, sir, I never did any of the follow-up work.
Q.—But you know it was done? *A.*—Yes, sir.
Q.—Did you get many patients from that method? *A.*—Some.
Q.—Well, was it ten a year? *A.*—Sir?
Q.—Was it ten a year, or how many? *A.*—More than that.
Q.—Two hundred—give me some estimate. *A.*—Well, I don't have anything to do with that, so how can I answer your question?
Q.—You did know about that. All I am asking about is what you know. *A.*—I don't know whether it is a hundred, two hundred or three hundred; anyway, we get patients by that method.

REDIRECT EXAMINATION

By Mr. Morriss Sr.:

Q.—You spoke about the process of tying off with this linen suture; in other words, it is a linen string? *A.*—Yes, sir.
Q.—Call it that? *A.*—Yes, sir.
Q.—What about the durability of that? I want to inquire about how long does that last? *A.*—That linen suture remains permanently; it is nonabsorbent.
Q.—It doesn't absorb or decay or rot, or anything like that? *A.*—No, sir.
Q.—That is a type of linen suture that remains? *A.*—Yes, sir.
Q.—Now, I want to ask you about—counsel asked you a great many questions about the technical matters there, but regardless of the exact process in which nature does cause it, have you found and is it your definite opinion that this operation that we have spoken of on the prostate, that Dr. Brinkley's hospitals do for the prostate enlargement, is it effective and beneficial to the patient? *A.*—Yes, sir.
Witness excused.

TESTIMONY OF DR. MORRIS FISHBEIN

Dr. Fishbein was recalled to the stand by the plaintiff and examined by Mr. Morriss Sr.

Examination by Mr. Morriss Sr.:

Q.—When you were on the stand the other day being examined by your counsel, referring to broadcasts by Dr. Brinkley, you were asked "and from what source or sources did you receive that information," and you gave this answer: "from listening to the broadcast of the plaintiff on many occasions, and on one occasion in which the plaintiff said in my own hearing to the people to send him merely a bill with their name on a sheet of paper mentioning the broadcast, but not to describe the symptoms, merely send the name on a piece of paper with a bill; in fact, if I can remember the exact words, he didn't have time to go into the symptoms and that he would send a bottle of medicine that would be of help to them," and I will ask you to identify the time when you heard that? *A.*—It is my recollection that is several years ago.
Q.—How many years ago? *A.*—I would say some time after coming to Del Rio, I can't fix it within that definite time.
Q.—Some time after coming to Del Rio? *A.*—Yes, sir. He may have said "send it to the Del Rio Drug Company," I am not positive, but he said he just wanted the name on a sheet of paper and the two dollar bill, and—
Q.—I didn't ask you to make the speech, I am just asking you when it occurred? *A.*—To my recollection, several years ago.
Q.—You say it was after he moved to Del Rio? *A.*—To my best recollection.
Q.—Over what station? *A.*—I believe the same station from Mexico.
Q.—XERA or XER? *A.*—I believe from Mexico. I don't try to memorize the names of his various stations.
Q.—The one opposite Del Rio? *A.*—I believe it was the one from Mexico.
Q.—You mean here by Del Rio? *A.*—That he was using at that time.
Q.—You are not willing to commit yourself to say what year nor what station? *A.*—Not without being able to verify it.
Q.—Well, are you able to verify it or do you just give your best judgment? *A.*—It is my recollection, as stated, that it was several years ago from a station in Mexico.
Q.—Now, you said you were listening to him on one occasion in which the plaintiff stated "in my own hearing"? *A.*—Yes, sir, that is right.
Q.—And you were remembering his exact words "he didn't have time to go into the symptoms and that he would send a bottle of medicine that would be of help to them"? *A.*—I think those were the approximate words.
Q.—You can't remember the year nor the month nor the place, the station over which he was broadcasting, is that right? *A.*—I wouldn't attempt to fix it that closely.
Q.—Are you going to say still that it was after he came to Del Rio or do you now think, maybe, it wasn't? *A.*—I feel quite certain it was after he came to Del Rio.
Q.—But you are not entirely certain about that? *A.*—Yes, sir, quite certain.
Q.—You said you felt certain it was after he came to Del Rio, is that what you are talking about? *A.*—To the best of my recollection it was after he came to Del Rio.
Q.—You are not qualifying that and you won't say positively it was before or after he came to Del Rio? *A.*—To the best of my recollection it was after—
Q.—By saying "to the best of my recollection" do you mean you are not certain? *A.*—I am quite certain. I am modifying the word "certain."
Q.—Modifying it? *A.*—Yes, sir.
Q.—What do you mean by modifying it? *A.*—One can be relatively certain or absolutely certain.
Q.—What do you mean now? *A.*—I am not absolutely certain, I am relatively certain.
Q.—You mean by that that you are not positive? *A.*—Not absolutely positive.
Q.—Not absolutely positive? *A.*—No, sir.
Q.—But you still say by the proposition that to the best of your recollection the claim you testified to occurred since he came to Del Rio and over the local station across the river, or, at least, it referred to the Del Rio Drug Store? *A.*—Possibly.
Q.—One of the three? *A.*—Yes, sir.

TESTIMONY OF DON HOWARD

Don Howard testified that he is a resident of Del Rio, Texas, and a radio announcer with station XERA, across the river from Del Rio in Mexico, and he represents the accounts handled by the International Advertising Agency, and that he has been connected with the station for two and a half years. He is familiar with the broadcasts. He testified that he had not heard Dr. Brinkley say to send him money and he would send them a pill or bottle of medicine.

Cross examination by Mr. Brown:

In the cross examination by Mr. Brown, Don Howard testified that the statement used was "my prescriptions are on file at the Del Rio Drug Store." He testified also that Dr. Brinkley offered $500 in prizes and to win this money one had to complete the sentence "I consider Dr. Brinkley the world's foremost prostate specialist because . . ." He stated also that Dr. Brinkley asked for the names of those physically and financially able to come and see him. He stated also that the time on the station was used by the Consolidated Drug Company of Chicago and by the Sterling Insurance Company of Chicago.

In the re-direct examination by Mr. Morriss Sr., Don Howard stated that the prizes were for the completion of the slogan and for sending names of people who might be interested in the Brinkley literature, and that it was done with transcription. In the re-cross examination, the witness stated that Dr. Brinkley comes out on weekends to broadcast and that the rest of the time records are used.

TESTIMONY OF J. O. WELDEN

J. O. Welden testified that he is plant superintendent for station XERA and that he had not heard Dr. Brinkley suggest that the public send him money and he would send medicine.

On cross examination, he stated that the company is owned by the Frontier Broadcasting Company, which is a Mexican company. He stated also that he had heard the people told they could buy medicine in the Del Rio Drug Store, among them one for constipation. On re-direct examination, he stated that he had not heard such statements for some time; on re-cross examination, he stated that at one time the station had been closed.

March 27, 1939

TESTIMONY OF JOHN R. BRINKLEY:

DIRECT EXAMINATION

Q.—Dr. Brinkley, you were on the stand the other day, called by the defendant, I believe? *A.*—Yes, sir.

Q.—How old are you, Doctor. *A.*—Fifty-four my next birthday.

Q.—Where were you born? *A.*—I was born in Western North Carolina, Jackson County.

Q.—Were you reared there? *A.*—Yes, sir.

Q.—And who was your father and what was his business or profession? *A.*—My father was Dr. John Richard Brinkley, a physician.

Q.—And did he or not practice there until his death? *A.*—Yes, sir, he practiced through that country there beginning before the Civil War and up until the time of his death in 1896.

Q.—How old then were you when he died? *A.*—Ten years of age.

Q.—Was your mother then living or had she died? *A.*—My mother had been dead five years. She died in 1891.

Q.—And with whom did you live after your father's death? *A.*—My mother's aunt raised me.

Q.—And what were the circumstances, Doctor? Were you poor or was there property or without property, poor, what was it? *A.*—While father lived we had plenty to eat. After my father died, why, it was a case of root pig or die, and there wasn't very much soil to root in. We were poor.

Q.—Now, as to the schooling, early schooling, where did you go to school? *A.*—I attended the local schools around there near home like the rest of the children, mountain schools.

Q.—And did you find employment, work? What did you work at first, I mean, aside from around home what did you work at first? *A.*—The first employment I ever had to pay me anything was carrying the mail.

Q.—What work had you done up to that time, as a boy? *A.*—I had been going to school and working around on the little farm we had there.

Q.—All right, how old were you then when you went to carrying the mail? *A.*—Well, I was only 16 or 17, somewhere around there.

Q.—And, Doctor, did you in consequent of that or in connection with that get into something else and how, just briefly? *A.*—Carrying the mail from the postoffice up there in the mountains down to the railroad station I became acquainted with the railroad agent and was given an opportunity to stay there with him and learn telegraphy and railroad bookkeeping and how to take care of a railroad agency.

Q.—Well, go on now and just tell us in your own way about how long before you began to study for a medical career? What was your purpose in employment, and through your youth or boyhood what was your aim or purpose or hope in life? *A.*—My hope was to be a doctor like my daddy. The day he was buried I said to myself that I was going to find some way or other to become a doctor like daddy was. That was my aim and my ambition.

Q.—And— *A.*—I might say the only thing open there a fellow could get to do was to teach local schools, and teachers' salaries were only $15 a month and school only lasted three or four months a year, so teachers' salaries were only about $45 or $60 a year and there was no chance for anybody teaching school to ever get to medical school, and so I thought learning telegraphy would be better. There was a boy that learned it and went to Washington and New York and did very well, so I thought learning telegraphy and getting a way to make money to go to medical school was the better for me.

Q.—Well, without getting into too much detail, did you pursue your work of telegraphy and the Western Union Agency and so forth until you finally got into school and got your schooling? *A.*—Yes, sir.

Q.—And would you mind just briefly outlining where all you worked and studied and whether in or out of school, with reference to how you prepared yourself to be a doctor and how long? *A.*—I went from Sylva, North Carolina, to Baltimore to see about getting into Johns Hopkins University because that was the only medical school I had ever heard of at that time. Going up there I found I did not have enough education to enter the school, and I met a man while I was there in Baltimore that had another school there that prepared young men with—for school entrance requirements, and while I didn't stay there and attend the school with him, yet he furnished me with books to read and outlined a plan of study for me and I went on up to New York City and worked in New York City for quite a while for Western Union. Then I worked for the Central Railroad in New Jersey, Hoboken, New Jersey. During that time I was doing I suppose today what we would call one of these correspondent courses like we have outlined. I would go down to Baltimore occasionally and report how I was getting along and be quizzed and first one thing and another. I left New York in 1906 because my aunt who raised me was in feeble condition. I returned to North Carolina and she died in December of 1906 and was buried, and I married and I went to Chicago and got a job with the Western Union Telegraph Company and found out about Bennett Medical College in Chicago and matriculated in Bennett College in June 1908 and worked for Western Union of a night and went to school of a day. And the first year I was in school there in Bennett Dr. Robert—Dr. John Dale Robertson, who was president of the school, established a literary department that he called the Jefferson Park College, I believe it was. During our freshman year in Bennett we freshmen that wanted to take literary work outside of our medical work would go over to this Jefferson Park College at 3 o'clock in the afternoon and spend a couple of hours over there in study until 5. I had to leave at 5 o'clock because I had to be down at the Western Union office at 5:30 to go to work, and that is the way my time was occupied the freshman year.

Q.—All right, and how many years did you have there in that college? *A.*—I had my freshman and sophomore and my junior year.

Q.—Then what did you take the other year? In other words, the senior year? *A.*—My senior year was taken at the Eclectic Medical University in Kansas City, in which I graduated—

Q.—I say why didn't you take your senior year there in Bennett? *A.*—Because I owed for my tuition. It was a common practice for Dr. Robertson to allow students to enter school short of money, figuring they would work it out, but he wouldn't let them enter the senior year without paying up, and I couldn't, so I dropped it.

Q.—Did you later pay the doctor? *A.*—Yes, sir, I paid it in 1921.

Q.—Did you go, then, elsewhere and—by the way, did you get a certificate or something to practice for a while under your three year work? *A.*—Yes, sir, I did.

Q.—Your research and general work you had done? *A.*—Yes, sir.

Q.—What was that? *A.*—I got, in the state of Tennessee the law there was that undergraduates could take the examination and receive a license to practice in Tennessee without being a graduate physician. I took the examination in Tennessee and received an undergraduate license. I practiced over in Arkansas for a short time under a permit issued to me by the Arkansas Eclectic Board of Arkansas.

Q.—Then, Doctor, right at this juncture, you heard of the deposition of this man Crawford who said that you went with him down into North Carolina and undertook to practice there—I mean South Carolina, Greenville, South Carolina. Did you do that? *A.*—No, not the way the deposition stated.

Q.—All right, just what is the fact about that? *A.*—I was in Chicago, Illinois, and went out to Lincoln Park, it was a Sunday afternoon, and there was a bathing beach out there and a place where you rented suits to go in swimming, and I went up to get a ticket and the man told me all the lockers were occupied, but if I would accept a locker occupied by some one else to go ahead, and I said all right.

Q.—All right, is that the way you met him? *A.*—That is where I met him.

Q.—All right, what happened? *A.*—He was from Mississippi and I was from North Carolina and I was up there alone and he was alone and we were always glad to meet somebody from the South, and we got to talking together and I told him about having previously worked for Dr. Burke at Knoxville and Chattanooga and that I was going back with Burke, and he said he didn't have anything to do and he said he wondered if he could go down and work for Burke. And we went down, and that is how he met Burke, who was opening up these offices.

Q.—Did Burke open up these offices for special work? *A.*—Yes, and employed physicians in the offices and treated venereal diseases.

Q.—All right, did you make an arrangement with Burke that took you to South Carolina? *A.*—Burke asked me to go down to Greenville, South Carolina, and rent the office down there, office space, and get out advertising. They had form advertising, the advertising was all the same for every office. They didn't have one kind of advertising for one town and another for another, it was all built up and arranged. And I took this advertising down there and placed these ads and run this opening announcement down there for a couple of weeks and Burke promised when I went down there to take charge of the office to send a doctor that was licensed in South Carolina. I stayed down there a couple of weeks and got things ready to go and no physician showed up.

Q.—When did you plan to open the office? *A.*—We planned to open on a certain Monday to be open to the public and start doing business, treating on Monday, and I called Burke up on the telephone and told him there was no doctor down there and that I was going to leave because I was not licensed down there. And he didn't send anybody and I simply got on the train and left and Crawford said "if you are going I am not going to stay here," so I went over to Mississippi—

Q.—You heard Burke's statement of the administration of some colored water of some kind? *A.*—I didn't practice—

THE COURT:—Crawford you mean? You said Burke.

Q.—Crawford? *A.*—I didn't practice at all. I didn't administer any colored water, 916 or 606 or anything else.

Q.—You left before the time that the office was to have—before the physician was to arrive, is that what you mean? *A.*—Yes.

Q.—All right. Now, you heard this testimony that was given by Crawford while an inmate in the penitentiary in 1931 or 1932, an inmate of the Oklahoma Penitentiary on these charges of robbery. Did you ever see him after that? *A.*—I saw James E. Crawford, he came to see me in Milford, Kansas, during the summer of 1932 while I was a candidate for governor of the State of Kansas.

Q.—Was he at large then, had he gotten out at that time? *A.*—He told me he was out.

Q.—Did he tell you how he got out? *A.*—Yes, he related certain circumstances of how he got out of the penitentiary in Oklahoma.

Q.—What did he say? *A.*—He told me that while he was an inmate in the penitentiary at McAlester, Oklahoma, he was called into the warden's office where he met two attorneys who introduced themselves to him and told him they were from the American Medical Association and that they wanted a certain deposition from him that would be injurious to me and if he would give them that deposition they would assist him in getting out of the penitentiary. And he said that they gave him a box of cigars and candies and $20 and left, and two weeks later they came back with my lawyers and he gave the kind of deposition they wanted.

Q.—What did he propose to you? *A.*—He told me if I would give him $300 he would make another deposition saying the one he gave them was all a lie.

Q.—What did you tell him? *A.*—I told him to get the hell out of my office. I told him if he would lie for them he would give a deposition to me and say I had paid him $300 to get a deposition and they would get another from him. I wouldn't have anything to do with him.

Q.—Doctor, now, when did you—when did you begin the active practice of the—of medicine? *A.*—I was licensed in Arkansas, passed the state board there in May 1915, and Tennessee in June 1915. I wrote both boards, passed both examinations and practiced for a few weeks in Memphis and a few weeks over in Judsonia, Arkansas, for a short while and I was over there at Judsonia, Arkansas, where the strawberries are supposed to be good and the river got up and flooded all the strawberries and there wasn't going to be any crop and I met a man who told me he thought Kansas was a good state for a fellow to locate in and I went up to Kansas and went to—

Q.—Milford? *A.*—Well, I first went to Fulton, I first went to Fulton, Kansas.

Q.—And then to— *A.*—Then to Milford.

Q.—Yes, sir. How long did you practice at Milford, Doctor? *A.*—After I began the practice of medicine at Milford, Kansas, late October 1917, and remained there until 1933.

Q.—Now, during all of that time were you in the active practice of your profession, medicine and surgery? *A.*—Yes, sir.

Q.—Did you or not have occasion during that time to pursue your study as a doctor? I mean what did you do, did you work and study? *A.*—From time to time I left Milford, Kansas, I would get some doctor to come in and take my place and look after my patients while I was away and I would go off a month or two and go to some hospital or clinic and take postgraduate work. I went to Chicago two or three times, took some

work there, went to New York, visited different hospitals in New York and clinics, saw operations performed and talked with different teachers.

Q.—Did you or not have occasion then to go to Europe in your work or your study? *A.*—Yes, sir, I received an invitation by a cablegram from Dr. Thompson, from Shanghai, China, in the fall of the year 1923. It was right after that—I associated it with that big earthquake that destroyed Yokohama because I know when I arrived at Yokohama the whole thing was in ruins, and Dr. Thompson asked me to come to Shanghai and I went over to Shanghai and did a few—

Q.—Was that intended as a removal or just temporary? *A.*—It was just a call to go over there and do some surgery.

Q.—I see? *A.*—And I got a little money over there from Shanghai—well, to be exact I got about $5,000 paid me about—I was paid about $5,000 for what few operations I did.

Q.—Now, Doctor, at that time had you or not become interested in any particular line of practice? *A.*—Yes, I had been doing the transplantation of glands into people.

Q.—Well, when and how or what time did you get interested in it, particularly in the gland, the human gland treatment and research and study? *A.*—My attention was attracted to glandular study by Professor Sutow. Professor Sutow was professor of physiology at Bennett College, Bennett Medical School, and he used to quite frequently tell we boys that he believed one of the greatest fields ahead of us was a study of the glands of internal secretion because little or nothing was known of them, and one day a professor came or a doctor rather came in and gave a talk. His name was Dr. Hair, and he gave a very enthusiastic talk about the possibility—

Mr. Brown:—Your Honor, we object to going into what some doctor said in his lectures as being hearsay.

Mr. Morriss Sr.:—We don't want the details.

A.—I merely meant to say those two instances are what caused me to become more or less interested in the glands of the body. And a very peculiar circumstance happened at Milford, Kansas. I had only been there about two weeks, being a new doctor in town and having a little drug-store that I had opened up there, and different country people would drop into the drug store to meet the new doctor and pay me their respects and tell me they were glad I was there and so forth. This one man came in and got to talking with me about sexual weakness. I told him I didn't know anything that would do him any particular good as to sexual weakness. The conversation continued and we got to talking about why couldn't we take some glands out of an animal and put them into a man. I told him it was biologically impossible. He wanted to know why it was impossible. I told him because you couldn't transplant the glands from a higher order of animal kingdom to a lower or vice versa. He wanted to know how I knew you couldn't, and I told him that was what I had been taught and I believed it. To make a long story short, he furnished the animal and I transplanted some glands into him, with good results according to his statements to me.

Q.—What was—was it, Doctor—you spoke about him furnishing the animal and you broke off there. Was it of his own volition? Did he insist? *A.*—Yes, he insisted.

Q.—And through what period of time was that and who joined him in his insistence? *A.*—His wife.

Q.—All right, did you or not visit them out there to see and did you or not advise against it and did you— *A.*—Yes, sir, I advised the man not to have it done and he said "you are a surgeon. You can put them in and if they spoil you can take them out."

Q.—Well, that was true, wasn't it? *A.*—Yes, sir.

Q.—Well, all right, did you or not find any results from that operation? *A.*—To me the results were amazing and startling because I expected bad results and disastrous results and instead of that happy results were obtained. The man claimed that he had been sexually dead for sixteen years. His wife verified that statement. A year later I delivered his wife of a fine baby boy, which at least proved that he was fertile, anyhow.

Q.—Did you or not then perform—did you perform any other operations on his own kin? *A.*—A cousin of his, a cousin of his. Of course, the news got around in great fashion, and a cousin of his came to me and asked me to do the same thing on him and I did and he had me to transplant glands into his wife. Then one of their relatives was in the insane hospital in Nebraska. He had been a banker. He was a banker up there, he was a cashier and lost his mind and was placed in an insane institution. They wanted to know from me if I thought glands would do this insane person any good, and I said "Lord God no," and they said "we want you to try it," because he had been a masturbator and "we know it" and they brought him down there, took him out of the institution, and I put those glands into him and that man recovered his mind and today is in charge of one of the biggest banks in Kansas City, Missouri. He came out of the insane asylum in Nebraska and had those glands put in. I published that in an article in a little magazine, and down in Alabama a lady read it. She had a daughter that had been in the insane asylum for ten years in Tuscaloosa, Alabama. She was violently insane at times. When she went to get a permit, she had to get a state permit to get this daughter out of a padded cell, they had to keep her in what is called a padded cell to keep her from doing injury to herself; she was trying all the time to commit suicide. And my wife and I met this lady with her daughter in Memphis, Tennessee, and put her in a drawing room and brought her to Kansas City and over to Milford. I transplanted glands into that young lady. She stayed in my hospital for a month, fully recovered her mental capacity. She didn't want to go home because she felt she was disgraced because of her previous life. She secured a secretarial position in Kansas City, Missouri, and married a physician and today she is healthy and happy and normal. I can go on and recite instances like that one after the other.

Q.—All right, Doctor—by the way, were you a member of the American Medical Association? *A.*—I was a Fellow of the American Medical Association at that time.

Q.—Now, did you or not from your experimentation, your operations, your efforts, your research, did you become convinced that there was benefit in glandular transplantation? *A.*—I did, I thought I had made a wonderful discovery, I thought this was the grandest thing in the world, I wanted the whole world to know about it.

Q.—Well, did you or not refuse to give it to the profession or did you offer it to them? *A.*—I offered it to the profession. I tried to get some of these things published in various medical journals. They very kindly said they couldn't afford to publish them. I wrote letters to doctors in different states telling them about some of the results I had obtained and asking them to come to Milford and let's see if we couldn't get it before the profession. No interest was shown.

Q.—Did you or not continue that effort? Did you or not have doctors there to witness your operations, there and elsewhere? *A.*—Yes, sir, doctors have seen me operate many times in the United States as well as in foreign countries.

Q.—And why, Doctor, did you go to advertising, just tell the jury your own feeling about it? *A.*—My feeling about the matter was that it was something that was too good and too valuable to lay aside and do nothing about it and that the public should know about it, the people should know about it, the people should have the benefit of it.

Q.—Doctor, what per cent of the population of the country are affected by the—by this trouble that you now operate for and such as that, this glandular—that is, the prostate gland? *A.*—I think it is pretty well considered that about 65 per cent of the men past the age of 50 have some involvement of the prostate gland.

Q.—Well, now, then, was it your desire to do something for those men or for the world at large on that question? *A.*—Yes, sir, it was. I was removing prostate glands, I was a general surgeon doing general surgery and was removing prostate glands.

Q.—Now, in your surgery during those years did you do general surgery? *A.*—Yes, sir.

Q.—I mean all kinds of operations? *A.*—That is true.

Q.—Were you or not then through the years at Milford were you or not actively and busily engaged in your practice as a surgeon? *A.*—Yes, sir, I was.

Q.—And as a physician also, but I am speaking particularly about in surgery? A.—Yes, sir, I was doing much surgery.

Q.—During all of that time were you doing study and research work to further qualify and— *A.*—I was doing many experiments, animal experiments, and people that came to me in the beginning that wanted these glands transplanted or thought they would like to have them, since I had found out they wouldn't hurt anybody to put them into them, why, I transplanted glands to people just to see if it would have any effect on all manner and kinds of diseases.

Q.—Was that always, Doctor, with their understanding of what was to be done and that was done? *A.*—Oh, yes, sir.

Q.—And then we had gotten down to, but I don't believe we got over, the matter of your resort to radio? *A.*—I had been called by Harry Chandler, Harry Chandler the owner of the Los Angles *Times* in Los Angeles, California, had read a little article I had written or published in some magazine some place and he asked me to come out there, an old employee at the time was sick. Mr. Chandler wanted me to put these glands into him to see if it would do him any good. While I was there Chandler was having installed KHJ for the *Times*. I think it was the first radio station that was ever put in there in Los Angeles, California. And leaving California and going back to Milford I thought it would be a nice thing to entertain the patients by having a radio station close to the hospital where they could lay in bed and listen in on their ear-phones, and I bought the station and gave lectures over it, talked about various diseases of the human body and did that up until 1929. I never tried to produce any patients over the radio at all, never even made any effort to. I was using the radio up until 1929 to give musical entertainment and medical lectures and medical advice in a general way. In 1929 I began a series of lectures dealing with the diseases of children. I began to receive an enormous amount of mail from people asking me about this thing and that thing and another thing. I couldn't answer it, and the only way it could be answered was to go on the radio and answer a good bulk of it, and in 1929 from answering those letters over the radio, through the radio, patients began to come to me because of radio advertising.

Q.—Well, what was the result there of your work so far as the membership in the American Medical Association was concerned? *A.*—Well, some time after 1917, I don't remember what year it was, why, I just didn't pay any more dues or bother anything more about it.

Q.—And had you or not been able to get their cooperation or hearing with reference to your glandular treatments? *A.*—No, sir. I wrote a letter to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION briefly outlining some observations I had made in transplanting these glands and asked them if they would consider publishing an article for me, and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION replied—I can't give you the exact words, but I can give you the meaning—they said "if we published in our journal every unverified announcement of a cure or treatment why the American Medical Journal instead of being a scientific journal would just be cluttered up with stuff," that is the meaning of it. "We can only publish articles that come to us verified from scientific sources." That was in substance the reply of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Q.—Now, then, you finally discontinued the transplanting of glands of animals, you say. When was that? *A.*—1933.

Q.—Explain your reasons for that? *A.*—Sundry reasons. One reason was that there was a lot of kidding and joking about this gland business. Many patients it was found out in their home community that they had been down to Dr. Brinkley's hospital, they had gone down and got a pair of glands, lots of men's wives were sensitive to the gland work and gradually more and more there was coming out glandular products and glandular preparations of some merit.

Q.—Had you yourself advocated that, advocated the experimentation in glandular products, the benefits of it? *A.*—Well, I recommend the use of glandular products in the treatment of disease.

Q.—All right, go ahead. I interrupted you. *A.*—Well, I don't understand your question.

Q.—You just said that your reasons for discontinuing the transplantation of the goat gland, the animal glands, as you said there was lots of kidding and then these products, glandular products had begun to be on the market. Is that what you said? *A.*—Yes, sir.

Q.—Well, do you mean by that that you were able— *A.*—I felt like by using good glandular products, injecting them into patients, I would probably supplement to a large extent the transplantation of glands, which is naturally a bothersome accessory method of treatment in your hospital, so I came down here to Del Rio, Texas, opened the hospital here in the Roswell Hotel, and have not done any gland transplanting since.

Q.—All right. Now, Doctor, was your work in that line and has your practice been primarily to make money out of it or what has been your feeling about it? *A.*—No, my idea of the whole thing was to try to get something worked out to where we could save from being removed the prostate glands of men. The prostate gland is one of the sex glands, a necessary gland for a man to retain his body in a healthy condition, enjoy normal sexual life and good health. Removing the prostate gland either suprapubically or transurethrally carries with it a certain amount of surgical risk. These prostate cases, many of them they are not good surgical risks. When they come to the hospital they are carrying residual urine, the functioning of the kidneys is down and they don't stand much shock unless you can get the kidney function up. Some of them doesn't come up very good. There is danger of infection, there is danger of hemorrhage, shock and hemorrhage and infection are three factors that all prostate surgeons or urinologists are conscious of in their work.

Q.—Well, now, then, how did you begin your research to try to find a way out of that? *A.*—How my attention was directed to the glands, these glands that I was implanting having any effect on an enlarged prostate or enabling a man to empty his bladder was that a lot of these men that came to see me for a gland transplantation that was all they

wanted, they wanted a gland transplantation for sexual weakness, they didn't want anything else done to them, they just wanted that for sexual weakness. Naturally those patients were examined and many had enlarged prostates, many had difficulty in urinating. I always had an understanding with those patients that any time that they wanted a gland transplantation repeated or if they sluffed out and didn't take it, as it is called, they could always come back and have the work repeated any time they wanted to. Quite a few of those patients drifted back to see me and they would say "Doctor, if you had done as much good for me in the way of helping my sex weakness as you have helping me urinate I would be tickled to death," and that directed my attention to the fact that planting these glands into a man that was having difficulty in urinating that somehow or other the urinary trouble was helped. That was the thing that caught my attention first.

Q.—And did you make research in that respect in the old country? *A.*—What did you say?

Q.—Did you make any investigation or research in the old country on your occasions of being over there? *A.*—Yes, sir. When I made this trip around the world I made a special trip to Saigon, Indo-China. I went to Saigon, Indo-China, because nearby was a colony of eunuchs.

Q.—By eunuch you mean— *A.*—A man who has lost either through removal by surgery, accident or otherwise his testicle. He is castrated. And with the kindness of the French surgeon who was there in charge of the port at Saigon I went out into the interior a ways to a little village where there was an old monastery. I think the name of the town was Annom, and there was some eunuchs there and the French surgeon gained their permission for me to examine their prostate. And I couldn't find they had a prostate, any evidence of a prostate. That has been confirmed many times by different observers. If a man's testicle is removed in youth his prostate gland doesn't even develop, and if in later life his testicles were removed his prostate gland shrunk up, showing there was some relation between the testicles and prostate.

Q.—Well, Doctor, without going into detail did you pursue that research and that study on through the years? *A.*—Yes, sir. I might say on that same trip I went to Berne, Switzerland, to see Dr. Coker of the Coker Clinic there. The Coker Clinic there on thyroid diseases is famous the world over. The old man that established the clinic, the senior Dr. Coker, was dead, but his son who had grown up with him in the work was in charge. I spent a very pleasant week with him and discussing the enormous amount of thyroid disease in Switzerland, and he was removing thyroid glands—

Q.—Where is the thyroid gland? *A.*—The thyroid gland is located astride of the windpipe here in your neck. And I asked him when he had to take out too much thyroid what did he do, how did he supply the deficiency.

Mr. Brown:—Your honor, we don't object to the investigation, but the conversation is hearsay.

THE COURT:—Yes.

Q.—Say what you did? *A.*—I witnessed many transplantings of thyroids into human beings. His way was to take a plug out of the shin bone. To make that more understandable, he took out the plug like we boys used to plug a watermelon. And he would put this in the marrow, and that was his method. He was using sheep glands in thyroid deficiencies.

Q.—Well, now, Doctor, I wanted to get down to the point of your beginning of your operations on the prostate gland. To operate for the prostate trouble—I mean had you or not performed many of the operations removing the glands and the like, had you done many of those? *A.*—Yes, sir, I have performed many.

Q.—Well, I believe you said your effort or desire was to find a way to avoid the removal, is that right? *A.*—Yes indeed, I wanted to avoid removing the prostate if possible, and as I said, my attention was brought to the prostate being affected by the transplanting. And about that time Steinach made some announcements about ligating the vas deferens.

Q.—That is the matter we have been hearing about? In other words, tying off? *A.*—No, not at that time.

Q.—I mean ligating means tying off the vas deferens, that large tube? *A.*—Steinach first advocated a ligature, a linen ligature around the vas deferens, not cutting it out, just tying off its main channel or line. Secondly, Steinach came back and said take out a portion of the vas deferens. And his third work had been to ligate these tubes coming from the testicle that has been under discussion here. And I tried some of those Steinach, those ligation operations first. I didn't see that they were of any value because that thread around the tube cut it in two and you had a free end of your tube, and I couldn't see it was a very good policy so of my own volition I commenced taking out a section of the vas along with the transplanting and then I started taking out a part of the arteries, the vas deferens artery, tying it off. I was doing all sorts of things to try to see what was best to help the prostate, working all the time along the line of what improvements could be made in what I was doing that might lower the size of the prostate and make him empty his urine normally.

Q.—Was that a research and work and experimentation that if successful would be beneficial and useful to society and to mankind? *A.*—Yes, sir.

Q.—Well, now I wish you would tell us just a word about that and what your ambition was for it. *A.*—My ambition has always been to do all the good that I can in all the ways that I can, and I felt like if I could have introduced something to the medical profession, or world in general, that would save men from a dangerous surgical operation or loss of their glands that it was worth any sacrifice or anything that I could do to accomplish it, and I still feel the same way today.

Q.—Well, did you work out this operation to your satisfaction? *A.*—Mr. Morriss, I don't think that any man ever worked out any operation to his satisfaction. I don't think we ever work out any treatment to our satisfaction. If we did why then progress would stand still.

Q.—I don't mean that, I mean to the point where you thought it was beneficial and fairly successful? *A.*—Yes, sir, to the point where it does good and helps patients, yes.

Q.—And, Doctor, how long now have you been doing that operation? I mean as a specialty not in individual cases or in connection with your other operations, but as a specialty since you came to Del Rio? *A.*—The operation that has been under discussion in this courtroom I began doing it a little before and had it worked out, but put it into universal effect when I came down here to Del Rio in 1933.

Q.—How many times would you say, as near as you can, you have performed that operation, Doctor? *A.*—The one that is under discussion here?

Q.—Yes, sir. *A.*—The ligation of the ducts?

Q.—Yes, sir. *A.*—I believe I would be conservative in saying I have performed at least 3,000 of those operations.

Q.—You are talking about yourself are you? *A.*—I am talking about what I have done myself.

Q.—Now, then, did you or not teach your staff, some of the members of it, to perform that operation with you and then finally independent of you? *A.*—Yes, sir.

Q.—And under your supervision, then, and in your hospitals, how many times do you believe that operation has been performed, including your work and what your staff has done under your supervision? *A.*—At least 5,000 times.

Q.—Have you had occasion to follow up the investigation, keep in touch with those patients to ascertain whether or not—what the results were and whether or not beneficial results were obtained? *A.*—Yes, sir, I make an effort to keep my patients—keep in contact with my patients. By way of illustration, last February I mailed a letter to the last known address of every patient I had any record of ever having been in the Brinkley Hospital, inviting them to a reunion to be held at our Country Club Hospital in Little Rock this fall, and from time to time we write our patients, write them friendly letters, letters of friendly information, letters of invitation to return for rechecks.

Q.—Is it a part of your arrangement and your practice that they may and do always return—I mean may return anyway and should return for check-ups and such as that? *A.*—Yes, we consider our annual recheck business on patients, we consider that one of the best protections to pateints that can be given because we give them thorough rechecks to see if anything else is wrong with them other than what was at the time they became my patients. That way we can advise what structures in their body are undergoing pathological changes or diseases that may be beginning to outline and advise medication, diets and care of them. In so doing we enable these patients to live longer and healthier and happier and get more out of life than if they were not privileged to get that yearly examination service or examination service any time they wanted to return for it.

Q.—And have you thus had occasion to make extensive study of the effects, the after-effects, the ultimate effects of these operations on your patients? *A.* I have.

Q.—Well, now, without pursuing that any further, what is the effect and in what per cent of cases is it beneficial? *A.*—I find that following this operation the patient relates a feeling of well-being, he feels more energetic.

Mr. Brown:—We think it is hearsay what the patients told him.

Mr. Morriss Sr.:—That is case history.

A.—We find that their blood pressure in many cases where it was above normal has gone to normal.

Mr. Brown:—We have that objection.

THE COURT:—Overrule the objection.

Mr. Brown:—Note the exception.

A.—We give these patients an examination when they enter our hospital and we give them an examination when they check out of the hospital and we note the physical findings both at admission and discharge. We find that these patients are able to empty their bladders with less difficulty, in many instances no difficulty at all. Of course, not all of them, you understand, are well of their prostate trouble or disease or enlargement in a seven day period by any means, but their urinary frequency, getting up at night, burning, draining, dribbling, has ceased or greatly ceased. In a great many cases their blood pressure is down to normal or greatly reduced, their appetite is better, they are eating more, or beginning to have better appearance, the sickly pallor or color in their faces is disappearing. When they came in the hospital probably they had such pain and misery they couldn't get out of bed, couldn't sleep without the use of pain relieving medicines. We find them upon discharge not requiring any medicine, the pain having gone, sleeping well, feeling well.

Q.—Well, now, after that how long have you observed them for what length of time have you observed the cases after the operation that you might know what the condition continued to be? *A.*—We are reexamining and rechecking on patients as far back as fifteen years who come to us in our hospital. We find that those patients continue to have good health.

Q.—Well, now, those that you have operated on by this operation since you came to Del Rio, I mean this same operation since you came to Del Rio, have you had occasion to observe and examine and recheck on those that were operated in 1933 and each successive year? *A.*—We are doing that daily, we have recheck patients coming to us every day. We are examining former patients daily just the same as we are examining new arrivals.

Q.—Doctor, I believe it has been shown and I assume these patients have come from all over the country? *A.*—Yes, sir.

Q.—Now, do you have a good many of them in this region here? *A.*—Oh, I have a large number of patients in the state of Texas.

Q.—I know, but I mean in this western area here, Val Verde and adjoining counties? *A.*—Yes, sir, patients in Del Rio and outside of Del Rio, in San Antonio, Uvalde and Eagle Pass and all up, all around here.

Q.—Well, have you observed any similar effects generally over the country, the effects on your patients over the country have been about the same as those in this region? *A.*—Yes, the effects, the region or the geography of the country doesn't have anything to do with it.

Q.—So the effect is uniform regardless of where they come from, is that it? *A.*—That is right.

Q.—Have you told or did you tell the other day, I don't remember, what percentage of your patients are materially benefited by the operation, aside from the medical care and examinations you give them—by the operation, what percentage of them do you think? *A.*—I don't think we ever have a patient that doesn't receive benefit in one way or another. All patients receive a certain amount of benefit in varying degrees. Some of these prostate cases they have to be reoperated on. All these prostate cases that I do this prostate operation on I don't get a hundred per cent result with that operation, but I do get a very high percentage of results and those that come to us if the prostate does not become reduced or for some reason they can't empty their bladder, we have them come back to the hospital and we do further surgery on them.

Q.—Doctor, in your advertising and in the pamphlets and also over the radio, why do you advertise as plainly as you do to the public? What are you seeking to do?

Mr. Brown:—Your honor, we think that calls for a conclusion, just a self-serving declaration about what he has been doing and it is immaterial and irrelevant.

Mr. Morriss Sr.:—What is his purpose is what I am getting at.

Q.—Is it your purpose merely to make money for yourself or is your purpose to benefit your fellow man? *A.*—My primary aim of course is to benefit sick people.

Mr. Brown:—Your honor, I think that is clearly objectionable.

THE COURT:—Well, this examination is taking rather a wide range and the Doctor has been allowed without objection to express a good many conclusions and opinions and generally give his version of the matter.

He was interrogated the other day fully from the defendant's standpoint of it, and I think I will let him state his views with regard to his opinions or conclusions. Of course, they are not binding on the jury any more than Dr. Fishbein's were.

Mr. Brown:—We except to the ruling of the court.

Q.—Just state what has been your aim and purpose in it all, Doctor? *A.*—My aim and purpose as previously stated primarily is of course to reach the sick people and benefit sick people. Naturally in advertising and maintaining expensive institutions, buying radio time, money must be had, we must charge for our services; poor people are coming to us, many people coming to us not able to pay are operated on free of charge. We operate on many physicians without charging them anything. We operate on many ministers without charging them anything. We operate on many men and women for fees like $25 and $50 and $75 fees in fact sometime. Our examination fee being $50 for the kind of examination we give. We even sometimes go ahead and do the examination and all the person can pay is $50 for the examination and we give them additional treatment without additional pay.

Q.—Doctor, I am not going to go through the details of this article with you. You have read it and we have inquired about, for instance, these various statements about patients coming in on Monday and leaving on Friday and not letting the next week's patients know what was done. What about that, have you ever tried to conceal the facts from your patients? *A.*—Absolutely not. My patients mix and mingle and visit with one another, take down one anothers names and addresses and get back home and correspond with one another. We have reception rooms, entertainment rooms, play rooms. The patients mix and mingle together. The patients are coming in every day and leaving every day.

Q.—Has that always been the case, have you always permitted and encouraged them to mix and mingle? *A.*—Our patients have always mixed and mingled together without any restraint on our part or any influence or any suggestion on our part.

Q.—Doctor, they spoke of your licenses having been revoked in places. Now, let's see. Did you ever go and study in Italy and get a license there? *A.*—Yes, sir, I went to the Royal University of Pavia, Italy, took the final examination and received the degree of Doctor of Surgery in June of 1925; returned to Italy in November of the same year and took the nation or state examination which was necessary and passed and became a licensed and registered physician in the Kingdom of Italy.

Q.—And then did you also pass examination in England and obtain a license there or right to practice? *A.*—It was not necessary to pass an examination in London, the Italian license that I had, the Italian examination was considered the equivalent of the English examination and on the basis of the examination I passed in Italy I was immediately registered to practice in the Kingdom of Great Britain and her possessions.

Q.—Doctor, do you know whether or not the American Medical Association or its members or officers assailed you in reference to those matters and those rights? *A.*—Yes, I know.

Mr. Brown:—That would be hearsay unless he had some evidence of it, your honor.

A.—I graduated—

THE COURT:—Just a moment. I don't see the materiality of it, as to this defendant here.

Mr. Morriss Sr.:—Well.

Q.—Doctor, were those licenses to practice in England and Italy later withdrawn? *A.*—Yes, sir.

Q.—And they spoke about some licenses in some of the states of the United States where you had gotten licenses having been withdrawn or revoked. Was that done around in the same general period? Was it done after your withdrawal from the American Medical Association and your beginning to advertise? *A.*—Yes. The Connecticut license was revoked in 1923 while I was in China. The Kansas license was revoked in 1930 while I was in Kansas. The English license and the cancellation of the Italian degree I thought occurred in 1927. I am not sure of the year, it might have been 1928.

Q.—Well, I believe you said the other day that the Connecticut license, that there was a large number, wasn't it, that was a large number of licenses? *A.*—In Connecticut?

Q.—Of many people? *A.*—That was a blanket revocation in Connecticut, every Eclectic doctor, I think, so far as I know, had his license revoked automatically.

Q.—What are and have been the various—what we call schools of medicine? I mean by that the different denominations or the names of the different ideas or branches such as surgery and allopathical and homeopathic and eclectic, is that all? *A.*—Pertaining to medicine I believe those three schools, the eclectic, homeopathic and allopathic were the schools pertaining to the use of drugs. There is the chiropractic institution and the osteopathic institution which started out, I believe, to practice manipulation and massage. I think now they have gone into the practice of medicine.

Q.—You spoke about your license being revoked out in California or an indictment—or an indictment preferred out there? *A.*—Yes, sir.

Q.—Now, just tell the jury about that? *A.*—All I can tell you about it is Mr. Chandler wrote me asking me to come to Los Angeles, California, and operate on his editor. I replied to Mr. Chandler that I was not licensed in California and he conferred with the secretary of the California Medical Board, Dr. Pincum—

THE COURT:—Now, that is bound to be hearsay, Doctor.

Q.—Were you advised— *A.*—I was called out there. What I was trying to get at, I was called in consultation by another physician in California to come out there in consultation with him on this patient that Chandler wanted me to operate on, because under the medical practice acts if I am licensed in Texas and a licensed physician in Illinois calls me up there in consultation on a case or cases I violate no practice act by going to Illinois with this physician that is licensed there, providing I am licensed here. It is not necessary for me to get a license. And it was under that arrangement I went to California, stayed out there I think six weeks, there was some kind of permit issued, I don't remember what it was, some kind of permit given for me to remain there and do some work for thirty days. Later on there was an indictment returned against me and I read the allegation in the governor's office in Topeka, Kansas, in which it said I had been—

Q.—You need not—well, was it for violating—practicing out of authority? *A.*—Violating the medical practice act of the State of California, as I understand it, remember it.

Q.—All right, was that later—was that indictment dismissed? *A.*—The charges were dismissed, yes, sir.

Q.—You were asked the other day if you weren't convicted of a liquor charge. Will you just tell what did happen about that, Doctor, exactly? *A.*—One of my patients at Milford, Kansas, or near Milford, Kansas, a little town called Elyria, was a dentist and he was opening up his office in Wichita, Kansas. He came by to tell me goodbye and asked me if I would give him a bottle of alcohol to use in his office down there until such time as he could get a permit or make arrangements to get his supply of alcohol he would need in his office in Wichita. And I was very glad to accommodate him and wrote a note to my wife who was down at the drugstore, I was up at the hospital, wrote a note to give the man, the doctor, a pint of alcohol, and she did. He went down to Junction City, which was 12 miles from us, met some of his friends there, proceeded to drink the alcohol and he got gloriously drunk. Kansas has a bone dry law, they could arrest you for smelling breath on your liquor—I mean liquor on your breath.

Q.—Was that the charge, Doctor? Was that what the charge grew out of? *A.*—That is what it was.

THE COURT:—I am not sure that I understand it. As far as he ever got was when they arrested the man that had the alcohol. Why arrest him? He stopped in the middle.

Q.—I mean is that why they preferred charges against you? *A.*—The man was taken to jail in a drunken condition and when he got sober enough to talk they asked him where he got his alcohol and he said he got his alcohol from Mrs. Brinkley up at Milford. I had gone, happened to have left during this time he come to see me in the morning and I went to Kansas City in the afternoon. The county attorney 'phoned me and told me the circumstances and he said "I have to take legal action, Doctor, which to me is regrettable," and I said "all right, take it out on me and leave Mrs. Brinkley alone because I authorized her to dispense that alcohol to that dentist." So the liquor law up there was applied against me. I pleaded guilty to the charge and was sentenced to three months in jail and a $300 fine. The county commissioners said they wouldn't have me in jail because I eat too good, it would cost too much to feed me, and they let me pay the fine.

Q.—Did you just pay the fine? *A.*—That is all.

Q.—Doctor, with reference to this charge here, now, you will remember what the article says about your telling people to send their bill—their dollar and get their pill. And you heard what Dr. Fishbein said with reference to what he had heard you say on the radio. Will you just tell us about that? *A.*—I don't make that kind of broadcast. Never at any time do I tell somebody to wrap up a bill and send some money in an envelope minus symptoms or anything and I will send some medicine. I tell people I don't treat them by mail, I don't treat them by correspondence. Night after night in my broadcasts, there is hardly a broadcast goes by I don't say "don't write to me for home treatments, we don't treat people until they come to the hospital and have an examination." Possibly after the examination is completed we find conditions whereby we can prescribe and you can go on home, but we are not going to treat anybody until we have had them in the hospital and examined them.

Q.—This treating by remote control, it states "we treat people by remote control." I don't know where it was, but you remember the statement prescribe by remote control. Is there any truth in that? *A.*—No, I don't do any such thing as that.

Q.—Doctor, you have heard the description of the prostatic operation as given by Dr. Petermeyer. Do you want to add anything to that? *A.*—I could give a whole lot better description and probably more understandable than has been given of that operation, but I hate to take the time of the Court. I think it has been admitted that some kind of operation is performed on my patients, and I am content to let it stand at that.

Q.—In the main, without details, is that the operation, the ligating as Doctor has explained it? *A.*—That is in the main the way that we are treating and operating on our patients now and have been since 1933.

Q.—Now, you have heard the testimony. Did you ever claim that you ligated one duct at a time or anything of that kind? *A.*—Oh, no.

Q.—Doctor, you have heard what was testified by the experts with reference to the physiological impossibility of the operation benefiting people and so forth. What have you got to say about that? *A.*—I know it does benefit people. When a man has been practicing something for more than twenty years like I have, like I have with thousands of patients, examining those patients when they come to see me the first time and seeing them down through the years, seeing the changes that takes place by physical examinations and scientific examinations and knowing that those patients have been benefited, why, there isn't any question about the people being helped. I have two hospitals filled throughout with patients all the time. They wouldn't be coming to me all the time spending their money if they weren't getting something for it.

Q.—You heard the testimony with reference to these vials of liquid. What do you call them ampules? *A.*—Ampules, yes, sir.

Q.—All right, do you want to add anything to what Dr. Petermeyer said about that? Do you ever fool the people with just giving them something that doesn't amount to anything? *A.*—Not by any means whatever.

Q.—Or is there a purpose in it? *A.*—When my attention was first attracted to the use of hydrochloric acid in the treatment of infectious diseases and treatment of gonorrhea and syphilis, I read an article by a man by the name of Ferguson, and I took several patients and examined the blood of the patients before I gave them anything and after examining their blood and making findings and recording it I began giving them a series of injections of hydrochloric acid. I gave it in various strengths, some strengths of 1 in 2,000, 1 in 1,000, 1 in 500, 1 in 250 and after using these various strengths on many many patients, watching, observing the reactions and benefits, if any, that would be observed, I came to the conclusion that the safest way to administer hydrochloric acid was in a strength of one in a thousand. I also use it for wet dressings. I use it in combination and conjunction with other medicines.

Q.—Now, will you explain what it is designed to do, what the purpose is of the hydrochloric acid in the solution? *A.*—My observation of it is that it increases the number of white blood corpuscles. The white blood corpuscles are the ones in our blood stream that attack invading organism, so-called disease germs. And naturally the normal patient should have seven thousand white blood corpuscles, and if you increase those by the injection of this medicine to thirty or forty thousand you have a lot more soldiers on your side fighting the invading disease organisms.

Q.—Well, now, then, is there inflammation, infection, around the parts, the bladder and so forth, in these cases? Does that have any effect on that? *A.*—My observation is that it helps these old cystic cases. These prostate cases coming to us, the bladder walls are infected, they have a cystitis, meaning a burning. My observation is intravenous injections of hydrochloric acid aids us materially with the other treatments we give these patients in overcoming and shortening the time of overcoming that particular infection. Also that the administration of

hydrochloric acid materially reduces the healing time in our work on the scrotum and also on the rectum. And I find it assists and aids in the healing of old sores on the patient's body. In other words, I find it quite a useful drug in my practice. Hydrochloric acid is a natural body acid. The human stomach contains it.

At this time there was considerable debate on the admission of certain evidence into the case, after which the testimony proceeded:

Q.—Doctor, in how many jurisdictions are you now licensed to practice and have you been in recent years? *A.*—I hold a license to practice medicine and surgery in the state of Texas, the state of Arkansas, the state of Missouri, the state of Tennessee, and I still retain my license to practice in the Kingdom of Italy because of a written examination I took before the Italian Board in December 1925.

Q.—Then, it wasn't the license to practice medicine but the medical degree, is that what it was that was revoked? *A.*—That is true.

Q.—In Italy? *A.*—That is true; the degree I received from the university was annulled, but the license that I received to practice medicine has never been revoked or canceled.

Q.—Doctor, concerning your medical research, what have you had and what do you have in the way of a library? I am not talking now about the general equipment in your hospital, but the library, what do you maintain and what do you have in the way of a medical library? *A.*—I have a good, well stocked library of various text books on surgery, practice of medicine, and different diseases, and, year by year, as new publications come out I purchase them, and I subscribe to various medical publications to read and keep informed of what is going on and being done in scientific medicine.

CROSS EXAMINATION

By Mr. Reynolds:

Q.—Dr. Brinkley, referring to this 1020 preparation, 1020 as I understand your testimony of the other day, means 1,000 parts of distilled water to 1 part of hydrochloric acid in a 20 cc. ampule, is that correct? *A.*—Yes, sir.

Q.—Plus the coloring material? *A.*—Yes, sir, that is it.

Q.—You say you experimented with various concentrations with the strength of this hydrochloric acid solution, and what was the most concentrated solution you experimented with? *A.*—One in 200.

Q.—And the weakest was 1 in 2,000? *A.*—Yes, sir.

Q.—And you performed the experiments yourself? *A.*—I had them given under my direction; I selected a group of patients and set them aside in the hospital, and I had their blood examined and then made the record of the blood findings.

Q.—When was it that you did all of this? *A.*—We did this at one time in Milford, Kansas, and, maybe, more than once, and we did it again two or three times down here in Del Rio, Texas.

Q.—I suppose Dr. Petermeyer assisted you in some of them, did he? *A.*—No, sir, I don't remember that he did; maybe he did, but I don't know.

Q.—Well, now, Dr. Brinkley, who determined which one you were going to use at the particular time? *A.*—I don't understand your question.

Q.—I mean who was the one to say "we are going to try 250 on this patient and 500 on this patient"? *A.*—I was the one that said that I would want to try 250 on a certain number of patients and 500 on a certain other number of patients.

Q.—Now, Dr. Brinkley, in this substance, this solution, who made that for you, who prepared it? *A.*—I have it made by the Glosser Laboratories in New York City.

Q.—You order all of these different concentrations from them? *A.*—No, sir. I don't think that I had the 250's and the 500's from Glosser, I think I secured them from other sources.

Q.—Did you make any up yourself? *A.*—No, sir, I didn't make any myself.

Q.—Not any in your hospital were made up by your employees? *A.*—No, sir.

Q.—Can you tell whether the thousand to one or the 250 to 1 is by weight or volume? *A.*—It was whatever was supplied to me; if I wrote to a manufacturer to give me a given number of ampules and they came to me labeled as such, I accepted them as such.

Q.—By weight or volume? *A.*—I don't know.

Q.—Do you know which you asked for? *A.*—I don't know that there is any distinction.

Q.—Don't you know there is a great difference in the concentration by weight and by volume? *A.*—I left that to the reliable manufacturer, not being a chemist and having nothing to do with chemical work; I deal with reliable concerns that put out dependable products in a safe way and that will not be harmful to humans.

Q.—Those concerns send you what you order? *A.*—I write an order and I say "please send me one hundred ampules of one to five hundred hydrochloric acid and one to two hundred fifty hydrochloric acid and one to one thousand."

Q.—And the chemist doesn't know whether you want it by weight or volume? *A.*—I don't suppose he does.

Q.—You think that is good practice, Doctor? *A.*—Well, I left it to the chemist to send me a product that wouldn't be injurious to the patient.

Q.—Something that wouldn't hurt anybody? *A.*—Something that wouldn't injure; of course, I wouldn't want to give anybody anything that would hurt them.

Q.—Doesn't it make a difference as to whether you administer it where you put it and what part of the body you put it in? *A.*—All of these products are used intravenously.

Q.—You never injected it intramuscularly? *A.*—Hydrochloric acid?

Q.—Yes, sir. *A.*—No, sir.

Q.—Doctor, do you remember when your deposition was taken in connection with the case brought against the American Medical Association by Paul Fernel, a Chicago plastic surgeon, out at your home here? *A.*—Yes, sir, I remember giving a deposition out there.

Q.—In 1937, wasn't it? *A.*—Yes, sir.

Q.—At that time didn't you testify in that deposition that this 1020 was administered in the muscles? *A.*—If I did it was misinterpreted, and I didn't intend to.

Q.—If you did you were wrong about it? *A.*—I was wrong if I said so, yes, sir.

Q.—All right, now, Doctor, as a medical man administering drugs and solutions and the hydrochloric acid to your patients, you can't deny that there is a great difference as to whether a concentration is by weight or volume? *A.*—Naturally, there is a difference.

Q.—How was that difference determined? *A.*—I don't know. It was determined by the chemists.

Q.—What is the difference? *A.*—I don't know.

Q.—How do you know there is a difference? *A.*—Well, because the statement is different, one is the weighing of the product and the other is to the volume of the product, so, naturally, it makes a difference.

Q.—Do you know whether in preparing a solution to administer to your patient you can use weight as to one ingredient and volume as to another? *A.*—I think it would be by weight, I believe it would be by weight, that is my opinion of it.

Q.—Can you mix them up one by volume and weight by the other? *A.*—Hydrochloric acid is a liquid and water is a liquid, and hydrochloric acid mixes with water—I don't see why you couldn't mix it.

Q.—Could you mix a definite amount of hydrochloric acid expressed in terms of weight with a definite amount of water expressed in terms of volume? *A.*—I would suppose so.

Q.—It sounds possible, doesn't it? *A.*—Yes, sir.

Q.—And you know, as a matter of fact, that is often done in preparing medical solutions, don't you? *A.*—It may be.

Q.—You know, as a matter of fact, it is often all by weight and all by volume? *A.*—I never go into the manufacturing of these solutions.

Q.—Then, 1 to 500, you expect to get the same thing any time whether you designate it, what it is, or not? *A.*—I would expect if I was dealing with some reliable manufacturer that is dependent and supplies the medical profession with products for the administration of their patients, I expect to get a product from them that would be noninjurious to give a patient.

Q.—Without telling them in what way it is to be administered and without telling them for what purpose? *A.*—I tell them it is to be given intravenously, but you don't tell for what purpose.

Q.—I will ask you in connection with this deposition in the Fernel case if you weren't asked this question and if you didn't give the following answer:

"*Q.*—That is what I thought too, I thought, perhaps, it pertained to that particular function of the body that you were talking about? *A.*—No, sir.

"*Q.*—That is the distinction you want to make? This 1020 you have that you use, you inject it in the veins sometimes? *A.*—No, sir, I imagine the injection of that would be so painful that he might hit me with a ball bat."

Weren't those the questions and answers you gave at that time? *A.*—I can't imagine any such being given; I certainly would never think of such a thing.

Q.—Dr. Brinkley, after that deposition was transcribed you read that over and affixed your signature, didn't you? *A.*—No, sir, I didn't read it over, I just glanced through it and signed it, and I didn't have time to thoroughly read it or correct it.

Q.—You don't think the report was right, then, is that right? *A.*—I know I never intended to say any such thing as that, I can assure you that.

Q.—Doctor, that is your signature there, isn't it (showing witness instrument)? *A.*—Yes, sir, I think it is.

Q.—Now, Doctor, are there any other types of medicine you administer to patients that you just send an order and a blanket designation of 1 to 500 and you don't tell the chemists it is by weight or by volume for the mixture of those? *A.*—We use many preparations intravenously that we order direct from the manufacturers.

Q.—Are they standard preparations used by other members of the medical profession? *A.*—Many are.

Q.—Then, they would know what to do with that, in a general way? *A.*—Yes, sir; and if I write to them and order something and tell what purpose I want to use it for and how I want to use it, they make up a safe and dependable and reliable solution for me.

Q.—Then, hydrochloric acid is something that isn't generally used, that is something different? *A.*—I think many people use hydrochloric acid.

Q.—And you think the chemist is fully qualified to tell you what you should use? *A.*—I think so.

Q.—And that you are qualified to use it without knowing whether it contains that percentage by weight or volume? *A.*—I think a reliable manufacturer sends you a product that he is supplying to you and other members of the profession that is not any risk being taken in.

Q.—In other words, the chemical manufacturer is determining the treatment to your patients rather than you, isn't that right? *A.*—No, sir.

Q.—All right, now, Doctor, in using this hydrochloric acid in the blood stream it is a fact that hydrochloric acid is an inflammatory or infection-inciting substance, isn't it; that is, causes it, in other words? *A.*—You mean hydrochloric acid would cause infection?

Q.—Sure? *A.*—I don't think so.

Q.—How about inflammation? *A.*—I don't think it would, because any—in other words, if it was injected inside a vein, the blood stream—

Q.—What does it do? *A.*—It has an action that stimulates the production of white blood cells.

Q.—All right, you tell us how white blood cells are produced in the human body and generally for what purpose? *A.*—They are defensive in their action.

Q.—In other words, they are produced to combat infection? *A.*—That is right.

Q.—And when you inject the hydrochloric solution you don't think that there is any infection goes along with that because of that production of white blood cells? *A.*—No, sir, there is no infection; if there was any infection in it your blood cells, why, it would be injuring your patient.

Q.—I want to know how 1020 produced the white blood cells? *A.*—It evidently stimulates the thing that makes them.

Q.—It does? *A.*—That is what it causes, and we don't know what causes it, but something goes wrong with it.

Q.—Is there anything else you give? *A.*—We inject in the patients various vaccines and serums to stimulate the human forces and body against the diseases.

Q.—And those, you know, are infection inciting substances themselves? *A.*—Those vaccines have been subjected to the heat to a point where the infection has been destroyed and the toxin from the infection is retained, but the organisms themselves are killed.

Q.—Is that your understanding of the vaccination? *A.*—The bacteria is killed.

Q.—Is it true that you inject the vaccine into the body in order to produce the situation that is opposite, but, at the same time, it is one infection that throws off; in other words— *A.*—I think it produces the opposite result, sure, but the vaccine, naturally, is introduced to stimulate the increase of the defensive organisms of the body.

Q.—Doctor, will you tell us where and how white blood cells are produced? *A.*—It is not generally known where the white blood cells are produced; the spleen is one place where they are considered to be made. They increase after taking these ampules.

Q.—Then, Doctor, you say that your work here with 1020 is quite experimental, don't you? *A.*—No, sir, I don't think it is experimental in the way of helping people.

Q.—It is experimental so far as you knowing what is in the substance and knowing where it happens or why it happens? *A.*—I don't think anybody knows what happens or takes place; when we administer many preparations we observe the clinical results and draw our conclusions from what happens after we do something.

Q.—And this 1020 business—Doctor, have you ever tried injecting pure distilled water in place of hydrochloric acid? *A.*—No, sir, I never have.

Q.—As a matter of fact, if you think over your theory very well, Doctor, you know you would get the same result? *A.*—I don't know what result you would get by injecting pure distilled water; I have never tried it or made the observation.

Q.—How much does the 1020 ampule cost you—you say eighteen cents apiece? *A.*—I think something like that.

Q.—And you administer about a half a dozen of them to a patient over a period of a week, you say? *A.*—Seven to fourteen.

Q.—And for that week's treatment, the administration of those seven to fourteen ampules, you charge a $100, isn't that true, Doctor? *A.*—No, sir, not in that way, no, sir.

Q.—What way is it? *A.*—We give those ampules and then we give the patient other medication; that isn't the only medicine we give them.

Q.—When he leaves the hospital do you give him medicine to take home with him? *A.*—We have various prescriptions filled for the patients to take back home and take after they get home.

Q.—Most of them take 1020 if they leave before the postoperative treatment? *A.*—No, sir.

Q.—None do? *A.*—No, sir, not now, and we haven't in two or three years.

Q.—You did then? *A.*—Yes, sir, years ago.

Q.—And your charge was the same whether they stayed for the postoperative treatment or went home, it was still $100? *A.*—No, sir, not based on $100 a man; a man might come and pay $275 for an operation, and the operation and treatments might be $750.

Q.—And it might be $1,500 for the treatment for the payment on an automobile? *A.*—It may not be on an automobile. When the patient gets home, and we thought that he should continue to take some of the medicine intravenously we give it to them to have their family doctor administer when they get home.

Q.—Do you give the instructions as to how to give the medicine? *A.*—It is given to the patient by the doctor that handled them in the hospital.

Q.—As to how the home doctor should use it? *A.*—A letter of instructions went along with it.

Q.—When was it you said you first tried the experiment with the hydrochloric acid in Milford, Kansas? *A.*—I don't remember the first time we tried it.

Q.—Just approximately? *A.*—I think it was in 1932; I think it was the year before I came down here.

Q.—Was that before Ferguson's article was written, that you are talking about? *A.*—I don't know when his article was written; I remember that I read Ferguson's article, and I had read other articles. It might have been at the beginning of 1933; but, anyway, I know I had used some of it and was using it in Kansas before we moved down here to Del Rio, Texas.

Q.—Have you read any further articles on the use of that substance in which the physicians stated that they found it was of no value? *A.*—I have read articles from physicians who said they had no results with it whatever.

Q.—You also know it has generally been disproven and disregarded by the medical profession? *A.*—No, sir, I don't think so, because I notice the manufacturers still make it and sell it, so, there must be a demand.

Q.—They make and sell it when you ask for it? *A.*—They sell it to others of the profession besides me; I am not the only one that buys it.

Q.—You don't know that as a fact, or that is your understanding—you know very well the medical profession has discarded the use of hydrochloric acid for the purpose you claim to get out of that? *A.*—I don't believe that.

Q.—You spoke about hydrochloric acid being one of the natural acids in the body, and you could say that about almost any acid, couldn't you, Doctor? *A.*—Not in the sense of what I meant when I made that statement; I was thinking of hydrochloric acid in the stomach.

Q.—Well, there are several other acids in the stomach, too? *A.*—Yes, sir.

Q.—What percentage of hydrochloric acid is in the stomach? *A.*—I will declare, I don't remember; 1.25, I believe, but I forget.

Q.—If there is some in there, some of the hydrochloric acid in the stomach, does that produce white blood cells in the stomach? *A.*—No, sir, I don't have any idea that it does.

Q.—Why not? *A.*—Because it is not coming in the stomach—I don't conceive of it coming in contact with the blood stream; it is put out in the stomach as an aid to digestion.

Q.—There is no way it would get in the blood stream, in your opinion? *A.*—No, sir, not as hydrochloric acid there in the stomach, no sir.

Q.—Now, Doctor, you talked about some experimental work or some study that you made in a colony of eunuchs, and where was that? *A.*—Indo-China, Ammon.

Q.—And your study of those eunuchs, that is, if they were castrated at an early age, they didn't develop a prostate gland? *A.*—Those I examined didn't have any evidence of a prostate.

Q.—What is it, in your opinion, from the examination that causes the growth of the prostate gland? *A.*—The prostate gland, in my opinion, is held in check up until the man attains a certain age, which I call the change of life in a man, by a balanced condition of his glandular system.

Q.—Wait, Doctor, you are not answering what I had in mind; maybe the question wasn't clear. What I mean is what is it that, between the time a baby is born and up until he becomes, well, until he reaches the age of puberty, what is it that causes the production and growth of the prostate gland? *A.*—I read in the literature that the prostate and the accessory sex glands are stimulated to grow by the male sex hormone, which controls them.

Q.—And the male sex hormone, where and how does it get up there? *A.*—The male sex hormone is made some place inside of a man's testicle, but it hasn't been definitely determined yet what part of the testicle that hormone is made in; that hormone, according to different investigators, stops at the age of puberty and remains normal along with the female hormone; the man has both hormones, the male and the female, until the break, we call it a break, on the anterior portion of the pituitary gland, and later on in life when a man grows old the cells in the testicles, whichever kind they may be, that makes the hormone, due to the infeeblement, don't make so much any more, and there is a less amount of the male sex hormone, and this takes the break off of the substance called prolan in the anterior part of the pituitary gland, and the basic cells in the pituitary where the prolan is supposed to be made exhaust themselves by the use of the prolan—

Q.—Well, I merely asked you what produced the growth of the prostate gland up to the growth of puberty—you say it is the sex hormones? *A.*—Yes, sir, the male sex hormone, that is my understanding.

Q.—The male sex hormone functions in that growth by passing through what canal in the body? *A.*—The blood stream.

Q.—And does that have anything to do with these ducts that you tie off? *A.*—In the sense of a hormone passing through the ducts, I don't think there is any relationship there at all.

Q.—Which secretion in the testes do you think passes, the external or the internal? *A.*—The external with spermatozoa.

Q.—Would that indicate to you that the external secretion didn't contain the sex hormone? *A.*—I don't think it does.

Q.—But you said you didn't know a minute ago? *A.*—I never said any such thing. I said I didn't know what part, and nobody else knows what part of the human testes makes those hormones.

Q.—It is definitely established what kind of tissue does? *A.*—Yes, sir; it is the interstitial tissue.

Q.—You can dissect and find what kind of tissue is in a particular part of it? *A.*—Yes, sir; but they haven't been able to put their finger on it and say which part is which that makes that hormone.

Q.—But if they just look and find where the interstitial tissue is they would know? *A.*—No, sir, because they have searched the interstitial tissue and they are not sure that it is made there; some are of the opinion that it is made in the inner tubules, and the epithelial and the interstitial, and one fellow has one idea where it is made and another fellow has another idea.

Q.—When you find a man late in life that you have the opinion that he has an enlarged prostate, as I understand Dr. Petermeyer's testimony, you tie off or ligate the ducts in order to cause a congestion, is that right? *A.*—In one sense I would correct that.

Q.—Let's have what other sense, if you don't agree with him? *A.*—My thought is, along with others, that tying off the ducts and blocking the passing of the semen so that it can't get out of the testes destroys the tubules, which we discussed previously, and destroys them and makes more room for the interstitial cells and germ cells to rejuvenate themselves and be more of them so that there will be more of the male sex hormone which can be made by the patient, and that is the way the benefits result; because many examinations have been made of these men before they had this done to them, and the amount of the sex hormones was found in the urine, and after the work was done the urine was examined later and found to be increased.

Q.—Where is the female sex hormone produced? *A.*—Somewhere in the testes of the male.

Q.—You think that by tying off the ducts you are going to get a disproportionate production, and you are going to change the balance? *A.*—It doesn't seem to change the balance; theorizing on it, you would theorize that way, to increase one you would think you would increase the other, but that has not been noted to occur.

Q.—That is not noted by you to occur? *A.*—I have talked with other men in this line of work and discussed it thoroughly, and I have seen many learned men; I have seen Dr. J. Elliott Smith, at the Saint Giles Hospital, London, England, and I went to see Professor Steinach at Vienna, but he was away on his vacation, so I talked with Professor Doppler, his assistant, and I went to Montreaux, Switzerland, and talked with Dr. Niehans, who has been doing this work, and Dr. Kocher of Berne, Switzerland, and I got their ideas as to whether it reconciled with me and whether I was on the right track, and I tried to go into those things.

Q.—Those men were doing that with the purpose or claim of sexual rejuvenation, were they? *A.*—Answering the question that way, I never asked what claims they were making, other than that we were discussing this work from a standpoint of enabling a man to empty his bladder.

Q.—They didn't claim it was an operation they were performing for the purpose of reducing the size of the prostate? *A.*—Yes, sir.

Q.—They didn't claim they were doing it for the purpose of treating prostatitis, did they? *A.*—Yes, sir; I believe I have some case reports from both of them on cases of prostatitis.

Q.—I thought you said you didn't discuss the purpose for which they were doing it, Doctor? *A.*—I said I didn't discuss the operation from a rejuvenation standpoint. You asked if they were claiming the operation was good for rejuvenation, and I said I didn't discuss it along that line.

Q.—When there is a change in what you call the balance between the male and female sex hormones in later life, I understand that you mean that the male hormone portion of it is decreased, is that correct? *A.*—That is what I am thinking, that the amount of male hormone is decreased and the female hormone seems to remain stationary.

Q.—Does that tend to make any physiological change in the man other than the prostate? *A.*—The testes soften about that time.

Q.—Do they tend to become effeminate? *A.*—No, sir; the man doesn't lose enough of his male sex hormones to take a change toward the feminine sex.

Q.—Now, Doctor, in the ligature of these ducts it is quite true that nature tends to compensate in some manner for every blocked function, isn't that the general truth; in other words, any kind of an injury, why, nature has some compensating factors, like you are talking about the production of the white blood cells, and that is a relatively general rule, isn't it? *A.*—I think more or less general, yes, sir.

Q.—Doctor, when you only tie off a few of those ducts between the testes and the epididymis, isn't it your opinion that nature compensates by making the rest of them do the work that all had done before? *A.*—No, sir, I don't think so; I believe when you tie up a portion of those ducts that part of the tissue becomes congested and probably destroyed, and the tubules, no doubt, a portion of them become injured from that and they are replaced by something else.

Q.—You think nature causes a difference in the production of certain things or the certain parts that cause the male hormone, but you don't think it has anything to do with the parts that go through those tubes? *A.*—In this instance nature wouldn't build a new set of tubules because a man is born with those, and if he loses a tubule he loses it forever and he is not going to grow another one.

Q.—If you tie off those, tie one of those off, and assuming there are nineteen others, why, tying off the one, why, the nineteen would do the work of the twenty? *A.*—I wouldn't tie off just one.

Q.—I don't mean that, I just mean to say— *A.*—I don't think so. A man would be plenty fertile yet, because a man, from that standpoint, is still passing plenty of spermatozoa.

Q.—And after that the nineteen would do the same as the twenty did before? *A.*—I don't think nature would compensate to that extent.

Q.—Are there any other portions of the body where you think nature wouldn't compensate? *A.*—There might be, if you called my attention to them.

Q.—Those tubes aren't full all of the time? *A.*—They are filled full of spermatozoa and semen, I believe, and I think they are filled all of the time, I don't think they are ever empty.

Q.—Constantly full? *A.*—I think semen is coming out of those cells down there, and those globules, and gradually working up those tubules to where they are all of the time filled.

Q.—What kind of tissue are those tubules composed of? *A.*—Tubular tissue.

Q.—Is tubular tissue elastic? *A.*—No, sir, they are not elastic.

Q.—There is no way under the sun that those would stretch or enlarge to compensate for pressure, in your opinion? *A.*—I doubt very much if they stretched any; they would, naturally, I suppose, when this secretion would be locked off; that is what causes—

Q.—That is nature's compensation, isn't it? *A.*—Not in the sense I am talking about; that is where nature can't help the tubules, and they are destroyed because they become overfilled and destroyed.

Q.—Well, then, it is your opinion that if you tie off all of those little ducts, efferent ducts, that as soon as or later you completely stop the external secretion from being produced in the testicles? *A.*—I can't answer you that question; that could only be answered if I did the operation on a man and then later on took his testicles out and cut them open and looked to see what had happened.

Q.—Now, Doctor, you talked about your dollar for pills business, and you have over the radio numerous times in the past told people to send a dollar or a dollar and a half to the Del Rio Drug Company and get prescription number 51 or number 65, or something like that, you have done that? *A.*—No, sir, I never have since there was a Del Rio Drug Store, and I never have since I have been here mentioned any prescription by number, by any number whatever; as I told you, I promised the Federal Radio Commission in Washington in June 1930 I would never again describe those medicines by number over the radio, and prescribe them, and I never have called medicine by number over the radio since.

Q.—You did before that time? *A.*—Yes, sir, I did before June 1930, I did.

Q.—All right, Doctor, you have taken symptoms of patients prior to that time and prescribed over the air, haven't you, from symptoms written in letters? *A.*—It is like this: those letters would come to me and they would say "I have been to my doctor—"

Q.—Doctor, I guess you explained that before, why and how, but it is a fact that you did it?

Mr. Morriss Sr.:—He was answering the question, and he has a right to answer it, I think.

THE COURT:—Let him make the explanation afterward, but I think he should answer it.

A.—Yes, sir. But I would like to explain.

Q.—Now, Doctor—

Mr. Morriss Sr.:—Just a moment, the court said he has a right to explain it.

THE COURT:—If the simple answer of yes or no isn't enough, I will let him explain it.

A.—I would like to explain this: for instance, you wrote me a letter and said you were being treated by Dr. so and so and that he told you that you had gallbladder or stomach disease or some other disease, and what was the matter, and that that was what you were taking the treatment for—"now, Dr. Brinkley, my symptoms are so and so, and here is the way I feel, and what do you think about it," and that is the way most of those letters were answered on that basis, that these people were taking treatment from some doctor and they told me they were suffering from something.

Q.—Lots of those letters that you prescribed for over the air on that didn't state they had been taking a treatment from the doctor; a lot of them said "I have a back injury, and I have so and so," and you prescribed on the basis of what they told you in the letter? *A.*—I probably have; I may have in some of those instances.

Q.—And lots of those instances where they wrote and said "I have gallbladder trouble" or "I have rickets" or something else, and you prescribed? *A.*—Yes, sir. When a patient says "I have so and so" I am of the opinion that the physician told them that is what he had.

Q.—You don't think that a patient gets it in his mind about what he has? *A.*—Well, sir, I agree with you on that; plenty of them get a notion in their head that is hard for a doctor to get out.

Q.—Do you think it is good practice to advise a man over the air that says "I have such and such" when you don't know which way he came to that conclusion? *A.*—If you advise him something such as a simple laxative, or something like that, it is all right, but if you go to advising him on definite things and treatments other than that I think it is wrong.

Q.—All right, if somebody wrote and told you a child had rickets and you would prescribe thyroid extracts? *A.*—Probably, in making a statement of that kind, I would have some background picture of this particular case.

Q.—Now, Doctor, as we consider that subject, isn't it a fact that a cathartic, for instance, might be very dangerous in a stomach case? *A.*—A brisk cathartic on coming appendicitis, I think, is dangerous, is a dangerous thing.

Q.—As a matter of fact when patients write in and describe a half a dozen symptoms it is quite possible those symptoms might be due to two or three different conditions, isn't it? *A.*—Possibly.

A.—Doctor, you spoke with great reverence of your father as a doctor, but your father didn't advertise his wares, did he? *A.*—Lord, no, he was a poor, old country doctor.

Q.—Well, Doctor, I want to get one thing straight: did you mean to state a while ago that the attorneys for the American Medical Association paid Crawford for giving that deposition by getting his release? *A.*—No, sir, I didn't intend to convey any such meaning of that.

Q.—Let's have what you mean? *A.*—This fellow Crawford came to me at my office in Milford, Kansas, in 1932 while I was a candidate for governor, and he said for a consideration of $300 he would change this deposition that he had given to the American Medical Association while he was in the penitentiary in McAlester, Oklahoma, and he went on to relate to me the circumstances, said he was called into the warden's office—

Q.—Did you say they promised to get him out? *A.*—He said they promised to help him, and he told me—

Q.—You didn't mean to convey the impression that there was any influence by the American Medical Association in getting that testimony? *A.*—I am just telling you, and that is all I can do, I can't do anything other than relate what Crawford said to me, and Crawford said they would do anything that they could.

Q.—Did Crawford tell you they did effect his release? *A.*—I don't know that he said they did.

Q.—You didn't have that impression at that time? *A.*—I was so disgusted with him, like any man would be under the circumstances.

Q.—Doctor, how many goat gland operations would you say that you and your associates performed since you introduced it? *A.*—I suppose about six thousand, five or six thousand.

Q.—You say, now, those were experimental or do you say that it was the greatest remedy you ever found? *A.*—I believe that the transplantation of glands is one of the greatest adjuncts to treatment for certain things we have, and I find that those glands are far superior even today than any product I can get like the male or female sex gland for the administration of a patient.

Q.—You have seen many of the patients in whom you have transplanted goat glands a considerable period after the transplantation, haven't you? *A.*—All down the years, yes, sir.

Q.—You examined the testicle at that time? *A.*—Nothing only by feeling of it.

Q.—For how long would you say, after you put that gland in there, were you still able to feel it? *A.*—You seem to be of the opinion that all of my gland operations were in the testicle, and I think I started to relate the other day that I transplanted them in different ways, and I related one of them in the testicles.

Q.—Well, speak of the one in the testicles? *A.*—We better say there are very few of those done, very few of them performed; the majority of those gland implantations were made in the fasciae of the scrotum or in the cremaster or the cremasteric muscles of the scrotum.

Q.—You could feel them? *A.*—Yes, sir.

Q.—How long a period of time could you feel them? *A.*—I have observed them—well, in one particular case—and, of course, I am not mentioning that case to say that all cases were like this, because they weren't, but you asked me how long, and I will say I remember one case that I could feel nodules and lumps in there for a period of two years afterward.

Q.—What would be the average, would you say? *A.*—The average of those would be—the majority of them would practically find nothing left after a period of six months; a few of them, quite a few of them, I found to be able to feel of them nine months afterward.

Q.—What did you feel when you felt them? *A.*—Feel a round nodule like a little marble, or something like that.

Q.—Hard scar tissue? *A.*—No, sir.

Q.—What did it feel like? *A.*—I thought so, but I cut some out to see, and some of them had glandular tissue in them.

Q.—As a matter of fact, no male sex hormones are produced in goat glands? *A.*—There are, no doubt, female and male sex hormones when they come out of the goat; it is evidently full of them.

Q.—Do you believe that the sperm is specific with the species? *A.*—I am not speaking about sperm, I am speaking about hormones.

Q.—Then, your goat glands had nothing to do with anything but hormone production, is that what we are to understand? *A.*—My idea of whatever good they did to put in a man caused him to urinate, and so forth, and he was getting that sex hormone to balance his own up to the level with the female sex hormone, and that is where the good came about.

Q.—Was it the overamount of female hormones that caused the enlarged prostate? *A.*—It seems to be, 'cause we go and inject the female sex hormone into the pig or the rat, and by continual injections of that in the pig and in the rat they have cancer of the prostate or enlarged prostates, and by that we produce cancerous prostates and enlarged prostates; and, on the other hand, if you take both of the male and the female hormones of equal proportion and inject them at the same time there is no observation or change one way or the other.

Q.—Here is what I am trying to get at: if the male sex hormone, if that is what causes the growth or accounts for the growth of the prostate gland, how was that consistent with your theory that, in later life, adding more male hormones reduces the size of the prostate gland? *A.*—When the male hormone becomes reduced in size it releases other substances held there called prolan, and when this is put in the blood stream then the prostate—the production of the prolan is stopped and the prostate ceases to enlarge.

Q.—Then, it is the prolan that caused the enlargement? *A.*—The prolan is set loose by the action of the sex hormone.

Q.—The prolan is what causes the enlargement? *A.*—In connection with the sex hormone.

Q.—The sex hormone is something that sets it loose, and it doesn't have anything else to do except that the prolan is on the prostate, is that your thought? *A.*—No, sir, my thought isn't that way.

Q.—I just want to get what it is, Doctor. What I want to know is the difference between the size in the prostate gland being because of the hormone, and, yet, in old age when you cause the production of more male hormone you say that minimizes or reduces the size? *A.*—A man has a normal amount of male sex hormones running from 10 to 24 units, and that is what has been estimated as being the normal amount of male sex hormones, and as long as man maintains that the release of prolan is not observed. but when that amount is decreased the release of prolan is observed and enlargement of the prostate takes place, so if we don't have the proper amount of sex hormones in the man's testicles to hold the prolan in the pituitary gland in balance and not let it go to overproducing itself we are going to get our enlarged prostate, and we have to have that checked, and the sex gland, the male sex gland is the one that checks against the prolan in the pituitary.

Q.—You know that in the development from child into man there are often cases of a delayed development? *A.*—Yes, sir.

Q.—Would you say in connection with that that when a person doesn't assume his full sexual maturity you must also find an enlarged prostate? *A.*—When these testicles haven't descended in children and haven't developed we find the prostate hasn't developed, and that is what gives me the idea that the male sex hormone has to do with the growth and development of the prostate gland because the undescended testicle, if both are undescended, it shows that the boy grows up just like a eunuch and has no prostate.

Q.—Now, Doctor, are goat glands used in the manufacture of commercial hormone preparations? *A.*—I don't know.

Q.—As a matter of fact, they get the greatest supply of that from entirely different substances? *A.*—I don't know where the supply comes from, since they have been able to identify the hormone.

Q.—They get it from the urine of pregnant mares? *A.*—That is one source.

Q.—You never heard of them using goat glands for that purpose? *A.*—I never heard of using sheep glands or any other kind, because it would be too expensive, it would be impossible to use, I think, for the extract of that hormone.

Q.—Now, Doctor, in this new technic you now have you say you have widely discussed that with people, and you let everybody know about it, and you have written articles to the medical journals asking them to print? *A.*—New technic?

Q.—Yes, sir? *A.*—I haven't written a thing to the medical journals, because I was turned down before and I knew I would be turned now.

Q.—As a matter of fact, you stated in your biography here that you would never reveal your technic of any kind to anybody again, didn't you? *A.*—I declare, I don't know what is in the biography.

Q.—You did have a little trouble with a couple of fellows who worked for you taking your goat gland and going elsewhere and performing that operation? *A.*—Owensby and Dragoo at Milford have their own hospital there, and they have been there ever since I left Milford.

Q.—And you didn't have any resentment of that at all? *A.*—I thought they treated me unfairly when both of them had been on my staff and employed by me, and to break loose from me.

Q.—Didn't you send out circulars and letters and advertisements in newspapers denouncing them for having done that?

Mr. Morriss Sr.:—I believe that is pretty far afield.

THE COURT:—I think it is legitimate cross examination.

Q.—How about that, Doctor? *A.*—I am sure I never put anything in the newspapers.

Q.—You did send out some circulars? *A.*—Probably did send out letters to my patients, very likely did.

Q.—In other words, you resented the other doctors having, in your opinion, stolen your treatment, is that right? *A.*—I just felt like they didn't treat me fair.

Q.—By using your treatment, is that it? *A.*—No, sir, by quitting my employ, abruptly breaking off from me without doing so in a legitimate business-like way.

Q.—You wanted to keep that process yourself, didn't you, Doctor? *A.*—I didn't want those fellows working for me to get up and set up a hospital and go in competition with me.

Q.—In your biography isn't this statement contained, referring to that episode and referring to the doctors by letter, Dr. A and Dr. B, and then it said "this forced Brinkley to do his own surgical work in Kansas; a court order permitted this, but this court order was of doubtful permit, and at any time Brinkley might find himself without authority to operate his own hospital or perform his own surgery. He came to some definite conclusions that the discovery and all improvements in his technic had been made by him alone, and he had been betrayed by A and B, and never again would he give a doctor a chance to do this to him, and he would let no other doctor in on his secrets"? *A.*—The betrayal didn't refer to them setting themselves up in business, but from business methods and things they did in my office that certainly brought me to the conclusion and opinion that I never would have any doctors working for me again and take them into my confidence like I did those two fellows.

Q.—You haven't broadcast your new treatments to the world, then, have you? *A.*—Well, I am broadcasting every day.

Q.—I said your new treatments or methods to the medical profession? *A.*—As I told you, I haven't written any medical journal articles since the previous time when I offered them and they weren't accepted; I don't consider it would be any use for me now to get out a letter to the doctors or try to get something in the medical journal.

Q.—You know that Ferguson wrote about the hydrochloric acid solution, don't you, and the doctors tried it? *A.*—Yes, sir, I know Ferguson wrote about it.

Q.—Also, that it was generally discarded?

THE COURT:—You asked that before.

Q.—Now, Doctor, there has been some talk here about your inviting other doctors to see your goat gland operation; as a matter of fact, that happened when your license was under fire, and you then said to the Kansas Board to appoint some doctors to watch you, isn't that it? *A.*—That is one time, but that is just merely one instance among many.

Q.—And those doctors did come and watch your operation? *A.*—Some of them did. I don't think all did.

Q.—Dr. Nesselrode was one? *A.*—Yes, sir.

Q.—And, then, they made full reports to the Kansas Board? *A.*—Very likely did; it is my understanding that they did.

Q.—And the license was, thereafter, revoked?

THE COURT:—That has been in evidence here a half dozen times that the license was revoked. We will recess now, gentlemen, until two o'clock.

At this time a recess was taken until 2 p. m. of said date; which time having arrived, the following proceedings were had, to wit:

Questions by Mr. Reynolds (resumed):

Q.—Dr. Brinkley, just a few more questions. Do I understand it that you formerly called what you now call your surgical technic the compound prostatic operation? *A.*—Not exactly, no, sir. When I was using the word the compound that was back in the days when I was doing work on the vas deferens, implanting the glandular tissue and things like that, and that was what I was speaking of as the compound operation.

Q.—Was that the same as the four phase operation? *A.*—When I was speaking of that I was putting in the glands, cutting out a section of the vas and injecting medicine through the vas and bringing down some muscle tissue and implanting it into the testicle.

Q.—I understand that, but is there a difference there between your four phase operation and then what you next called your compound operation? *A.*—Yes, sir.

Q.—There is a difference? *A.*—Yes, sir, there is a difference.

Q.—Is there a difference between the compound operation and what you refer to as the compound prostatic operation? *A.*—I don't think I ever used the word compound prostatic operation, I don't think I used that.

Q.—You haven't used any other name for this present surgical technic? *A.*—When I first started using it I thought about calling it a budding operation just for the purpose of using a term.

Q.—Doctor, you spoke this morning about thyroid gland transplantations. I believe you say you witnessed that over in Europe some place. That was discarded, wasn't it, after some experimentation? *A.*—I don't know, sir.

Q.—You haven't heard of it being followed up in this country and being generally used, have you? *A.*—I don't know.

Q.—Now, Doctor, there is another thing I want to get clear here. In your opinion was your four phase or any operation employing the goat gland effective in curing sterility caused by gonorrhea? *A.*—No, not a gland transplantation, it would certainly have no effect on sterility caused by gonorrhea.

Q.—And you don't have that claim regarding your compound operation, do you? *A.*—No, sir.

Q.—Now, about sterility caused by mumps? *A.*—Back when I first began using these glands I put the glands into some patients that had the mumps and after the glands were transplanted into them their wives conceived and bore children and that gave me a thought that possibly the absorption of that glandular tissue was stimulating the man's testicle into the formation of sperm cells. Possibly my misconception in my eagerness and enthusiasm was overdrawn.

Q.—Do you cure sterility caused by mumps by your present technic? *A.*—Oh, no.

Q.—You don't make any such claim? *A.*—No.

Q.—Doctor, this is a touchy subject, but quite truthfully, in your own estimation, are you the greatest prostatic specialist in the world? *A.*—You know, I certainly don't think so. I imagine there are many men who are probably greater than I am.

Q.—But you like to have people write on these contests stating that you are? *A.*—The announcer over the radio station fixes up those announcements and puts them out.

Q.—What are you going to do with those letters? Have you formed plans on those? *A.*—I will send each one of those people a book.

Q.—You are going to judge the best one and give them the prize, though? *A.*—Well, that is a statement made over the radio. I imagine I will call in several people at Little Rock. I imagine we will have thousands of them. I doubt if I will be able to read them all.

Q.—What book is this you are going to send them? *A.*—A little book, probably a little book entitled "After Twenty-One Years."

Q.—What is the general nature of the book? *A.*—Talks about the radio station and the silver wedding anniversary of Mr. and Mrs. Brinkley, reproduction of x-ray pictures we have made of former patients and my boyhood.

Q.—Talks about your former patients? *A.*—Yes.

Q.—And benefits you have done for them? *A.*—Yes, sir.

Q.—Doctor, may I ask what is the value of that enormous ring on your left hand there? *A.*—I paid $4,300 for that ring, sir.

Q.—Do you think that is the value of it? *A.*—I don't know what it is worth. That is at least what I paid for it.

Q.—How about the one on your right hand? *A.*—This?

Q.—Yes, sir? *A.*—That ring is worth about a $1,000.

Q.—How about your stickpin? *A.*—Fifteen hundred dollars.

Q.—Your tieclasp? *A.*—Oh, about $800.

Q.—How many automobiles is it you have now, Doctor? *A.*—I will have to go to counting up.

Mr. Morriss Sr.:—I don't know that that has anything to do with the question of this libel suit, but if he wants to pursue it I just don't know why. If the gentleman thinks he can get some prejudice in that way I don't want to make any particular objection.

THE COURT:—Well, if you don't want to object you ought not to rise to your feet. If you want to object the court will rule on it.

Mr. Morriss Sr.:—I just think that that inquiry has gone far enough, that is what I think about it.

THE COURT:—Overrule the objection.

Mr. Morriss Sr.:—Note the exception.

Q.—How many automobiles, Doctor? *A.*—Well, now, you will pardon me until I figure up a little bit, will you? Over on the farm in North Carolina I have a couple over there and down at the citrus groves I have a couple down there. That is four. At the hospitals we have three or four. Well, say that is eight. I am not sure. And I think we have four here at home, something like that. I guess about a dozen.

Q.—These here at home are all large cars, aren't they? *A.*—No, we don't have—if you are thinking of limousines, we don't have any limousines here, we have nothing larger than a five passenger car here.

Q.—What about this red car you ride around in, what kind of car is that? *A.*—That is a Cadillac 16 coupé.

Q.—How many times is your name on there, Doctor? *A.*—I never counted it, I don't know.

Q.—About thirteen or fourteen times, isn't it? *A.*—I don't know, I never counted it.

Q.—In naming your automobiles you forgot your bus in Little Rock, didn't you? You have a bus running between your two hospitals? *A.*—No, that is an old Cadillac.

Q.—Doctor, you originally built this radio station over in Villa Acuna, didn't you? *A.*—XER? I built that, the first one, myself.

Q.—How many towers were sticking up, the antenna? *A.*—We put up two and then the third one.

Q.—That third one was put up after the station was temporarily closed, or was it? *A.*—No, that third tower was up there when the station did close.

Q.—Sometime between its opening, then. And then you didn't put it up in the first place? *A.*—The two towers were put up and then within a year I think the third tower was put up.

Q.—Now, that third tower is located just about the center of the other two except it is a little to the south toward Mexico, isn't it? *A.*—Right.

Q.—What is that third tower for? *A.*—To give a directional effect to the station.

Q.—In other words, your broadcasts don't go South, but they go North? *A.*—Yes, they go South, the amount of power that goes South is the exact power that is in the antenna. I will just give you an illustration as it is today. Today there is 500,000 watts put in the antenna. Now, South they get the effect of a 500,000 watt broadcasting station, but directly up this way they get the effect of a million watts broadcasting station.

Q.—Now, Doctor, just as a general estimation what is the value of the real estate owned by you? *A.*—In North Carolina I would estimate the real estate over there is worth $75,000. The citrus groves down here in the Valley $50,000.

Mr. Morriss Sr.:—By the way, I believe we object to all that as having nothing to do in this case, being irrelevant and immaterial and incompetent to establish any issue and we move the exclusion of—the withdrawal of the questions and the answers so far and make the objection to anything further along that line.

Mr. Reynolds:—Your honor, there are several decisions in various states. I don't think we have found one in Texas, I will say that, but in many states, that the financial condition of the plaintiff in a libel action may be introduced into evidence. Now, it is generally known that the financial condition of the defendant can be, but there is a division of authority on the financial condition of the defendant—of the plaintiff. I am urging those decisions in that way upon the Court as being a reasonable one. You will find that all definitely set out, I think it is page 251 of Newell on slander and libel.

THE COURT:—It seems to me if there is inquiry as to the source of his revenues, where it might have come from, it might have some relevancy. I think the question of his income was gone into rather thoroughly the other day. He testified what his income was for three or four years. I don't think I will let any further questions along that line go in.

Q.—It is a fact, is it, Doctor, that you have had continual financial success in the practice of your medicine, though, ever since you started advertising? *A.*—No, I haven't had continuous success, I have had some years that were quite unsuccessful.

RE-DIRECT EXAMINATION

By Mr. Morriss Sr.:

Q.—Doctor, since the lengthy discussion about the theories of the prostate that we have had do you or not still hold to the opinion that your operation benefits patients and mankind? *A.*—Absolutely.

Q.—Do you or not know whether the prostatic operation by ligating the epididymis has been accepted and approved and is now practiced by a good many other doctors other than yourself? *A.*—Yes, that technic is used by other physicians.

Q.—Counsel asked you the other day and there was testimony, the testimony of Mr. Tingle, about a proceeding filed at Dallas at one time in which it was tried to revoke your license in Texas. What became of that proceeding? *A.*—Dismissed.

Q.—Doctor, I did want to ask you one other matter, and that was with reference to the effect, if any, of this article at the time it came out upon your own feelings? *A.*—It made me feel ashamed and made me feel embarrassed and hurt my feelings generally. It made my wife feel ashamed and my daughters—

Mr. Reynolds:—Just a minute. The rest of the family aren't claiming damages here. I think that should be stricken from the answer.

THE COURT:—The feeling of his wife or the balance of his family might have had some effect on him. I will let the jury consider it.

Mr. Morriss Sr.:—I think that is all.

RE-CROSS EXAMINATION

By Mr. Reynolds:

Q.—You said this technic is being used now by other physicians. How many can you tell us that use the ligation of the efferent ducts? *A.*—Steinach, Elliott Smith, St. Giles Hospital in London and Dr. Neihans is using it, and I think there are quite a few physicians in the United States using it.

Q.—Do you know that there are any in the United States using it? *A.*—I believe there are.

Q.—You don't know? *A.*—I don't care to swear to it. That is an opinion.

Q.—Now, regarding these Texas proceedings in regard to your license, they were dismissed, there never were any hearings on that, were there? *A.*—No.

RE-DIRECT EXAMINATION

By Mr. Morriss Sr.:

Q.—Doctor, with reference to your best information, how about doctors in San Antonio and other cities and towns, have they gone to using it?

Mr. Reynolds:—I object to the Doctor's best information.

Witness excused.

TESTIMONY OF J. H. DAVIS

J. H. Davis testified on direct examination by Mr. Morriss Sr. that he is a doctor, living in Little Rock and licensed in Arkansas, Texas, Mississippi, Louisiana and Oklahoma. He came to Del Rio in 1933 and moved with the Brinkley Hospital to Arkansas. His testimony then proceeded as follows:

Q.—What do you do, Doctor, what is your connection there? *A.*—Well, I am examining physician, and of course I recheck some people, not many, not as many in Little Rock as I did here.

Q.—Have you witnessed and assisted in any of these prostate operations that Dr. Brinkley performs? *A.*—I have been in the operating room a few times when Dr. Brinkley was operating and, in fact, when the other surgeons was operating, too.

Q.—And have you had occasion to inquire—let's see, you have been there something over five years, have you? *A.*—Something like that.

Q.—Have you had occasion to acquire an intimate knowledge of the operation and of the treatment, examinations and all that that are given to the patients in that hospital? *A.*—I do about the examination, and I have had observation of the operation. I have never done the operation.

Q.—We are not going to take the time, Doctor, to ask you with reference to the details of the examination that patients are put through. That has been testified to. But I just wanted to get from you the matter of—of this prostate operation and the question of its success or not? *A.*—Well, my observation has been that it is very successful.

Q.—Now, about how many—you spoke about the opportunity to recheck. What do you mean by that? *A.*—Well, that is patients that have been operated on and later, six or eight months, possibly a year or a number of years later returned for a recheck, a general check-up.

Q.—Is that for examination of their physical condition generally? *A.*—Yes, sir.

Q.—In those instances do you examine them or have you done so? *A.*—I have made the recheck examination, a good many of them.

Q.—What did you find with reference—in rechecking, I mean, what do you generally find, that is any exceptions or otherwise, what do you find with reference to the condition when they come back? *A.*—Improvement in some instances and in some instances satisfactory cures.

Q.—Doctor, you are not talking loud enough. You said improvement in some instances and in some instances satisfactory cures? *A.*—Yes, sir.

Q.—What about the prostate, the condition of the prostate after those operations, whether or not it has been changed in its size, reduced or otherwise. Tell us about that? *A.*—Well, the prostate, it is owing to the condition of the prostate when it was received, about the time that there would be any change or not, and some of the prostates that are only enlarged from an infiltration will reduce quicker than one that is fibrous.

Q.—What do you mean one that is fibrous? *A.*—Well, it is a little bit hard.

Q.—Well, I am talking about those that come back six or eight months or a year and so forth, what do you find their condition to be then? *A.*—I find improvement.

Q.—On a question of reduction or not, that is what I am trying to get at, the reduction of the size of the prostate? *A.*—Well, they are reduced. The prostates are graded from one plus to minus and three plus and three minus and so on. You take a three plus prostate, one that is infiltrated from infection will reduce after the operation to normal size over the course of seven or eight days. That has been my observation. Those that are larger and have an infiltration of glandular tissue and have become a little bit fibrous, they don't reduce so much, but those that are two plus might be a two minus in eight months or twelve months, on recheck.

Q.—What do you mean by that, just explain about the size? *A.*—A two plus prostate in the first stages of enlargement from its normal size, that is a two plus prostate, and a two minus would be a little bit—or three minus or three plus would still be larger.

Q.—In other words, if I understand you, you grade them according to size? *A.*—According to size, yes, sir.

Q.—Up to what maximum size do you find them? *A.*—I have found a few that I graded them out as four plus.

Q.—What size would that be? *A.*—Well, that would be something the size of the ordinary grapefruit, pretty large.

Q.—I want you to tell the jury whether or not, Doctor, from your observation and experience with these operations on the many patients you have seen whether or not the operation is in your opinion considered a success or otherwise? *A.*—Well, it is a success.

Q.—Is it or not beneficial to the sufferer? *A.*—Yes, sir.

Q.—Does it or not—I am not talking about every case—but does it or not relieve the patient from his sufferings, and if so the percentage of cases? *A.*—I wouldn't know the exact percentage, but the per cent relieved is very large. They may be relieved of urinary trouble. The prostate may not go down so rapid, but they will be relieved of urinary troubles and pains adjacent thereto, a large percentage.

Q.—Now, what about the continuation of that improvement, does it extend, is it permanent in its nature or is it temporary or how? *A.*—Well, it seems to be permanent from my observation of the number of rechecks that I have had in the last five years.

Q.—Have you or not then had occasion to recheck those whose operations are as much as four or five years old? *A.*—Yes, sir, I have rechecked them further back than that, ones operated on at Milford, Kansas. I wasn't associated with Dr. Brinkley at Kansas, but there have been patients to the hospital that I have rechecked here in Del Rio that was operated up there back in 1930 and '31 and '32 and possibly, then back before that, but I don't remember their names.

Q.—What did you find in those older cases, that is, what I mean is the condition? *A.*—Well, we had the record before us, the size of the prostate when they entered, and the most of them were normal would be my recollection about it so far as the size of it was concerned.

Q.—I suggest you tell us what part you have in the physical examinations so as to manifest what you know about the condition when they come there? *A.*—Well, the patient registers and then they are sent to my office for a physical examination and I make the physical examination and grade the prostate and return it back to the laboratories.

Q.—Then you do have opportunity to know what their condition is when they get there as to their prostatic trouble, do you? *A.*—Yes, sir.

Q.—Doctor, would you tell us—by the way, how long have you been practicing medicine, did I ask you that? *A.*—Well, no. I graduated from medical college in April 1912, I think it was. No, April 4, 1904.

Q.—Well, have you been practicing ever since? *A.*—I have been in the active practice ever since.

Q.—How did you happen to go with and when did you go with Dr. Brinkley in his hospital? *A.*—Well, I think it was 1902—

Q.—You mean 1932? *A.*—1932, I mean. I carried a patient from my home town to the hospital at Milford, Kansas.

Q.—From your home town where, Doctor? *A.*—Waldo, Arkansas.

Q.—Go ahead. *A.*—I carried this patient up there and he was examined and accepted and was operated on, and I stayed there in the hospital with him for the period of seven days. And he drove my car back from Kansas in the seven days. That is, the most of the time. We took time about and he drove some as we went up, I carried him up in my car and brought him back in my car, and I rechecked him then in 1933 or 1934, I disremember, here at Del Rio and he was well and all right. And then when Brinkley came from Kansas and established his hospital in Del Rio I had a license in Del Rio and I believed in his work after staying in his hospital up there for a week.

Q.—Now, then, go ahead? *A.*—I wrote him and asked him if he had a place on his staff, that if he did I would consider it, and he wrote me he did.

Q.—Did you have any other patients that went to him or you took to him? *A.*—I carried another one to him in the spring of 1933 from Stamps, Arkansas, and he was rejected, they said he was too far advanced and they wouldn't take him. They were the only patients I ever carried to the Brinkley Hospital.

Q.—That was before you made your connection with the hospital? *A.*—Yes, sir, that was before I ever made any connection with him.

Q.—You had met Dr. Brinkley, then, on the occasion of your visits? *A.*—I met Dr. Brinkley at Little Rock in the spring some time of 1932. He was down there and made an address to the medical association. Myself and wife drove up there. I wanted to see what he looked like. I never had seen him.

Q.—Was that before or after that that you took the patient up to Milford? *A.*—I carried that patient up there before that. He was in Canada. My patient was brought back home before the medical association met. So I drove up to Little Rock to hear him. That was the first time I ever heard him.

CROSS EXAMINATION

By Mr. Reynolds:

Q.—What medical association was that you say, Doctor? *A.*—The Eclectic Medical Association.

Q.—Are you an eclectic doctor yourself? *A.*—No, sir.

Q.—You have never attended any meetings where Dr. Brinkley addressed them, a county medical society? *A.*—No.

Q.—You didn't mean to infer that? *A.*—No, it was the State Eclectic Medical Association of Arkansas. I am a member of the allopathic tribe.

Q.—Doctor, now in your examining of patients you said something about grading the prostate and then sending it to the laboratory. What do you mean by that? *A.*—Well, after the physical examination is made and the condition of the prostate is described on the examination blank as to its size and as to its tensity and so forth, then they are sent to the laboratory for x-ray work.

Q.—The patient is? *A.*—Yes, sir.

Q.—Not just a section of the prostate? *A.*—Oh, no.

Q.—Now, Doctor, how many times is it you have seen Dr. Brinkley himself operate? *A.*—A good many times. I wouldn't say how many, but a number of times.

Q.—Have they all been cases of prostatic enlargement? *A.*—Yes, sir.

Q.—No prostatitis? *A.*—Well, an enlarged prostate might have some inflammation and it might not have.

Q.—Any for prostates containing cancer? *A.*—How is that?

Q.—Any for prostate glands containing a cancer? *A.*—I have never seen him operate on one that was supposed to have cancer.

Q.—He does that though, doesn't he? *A.*—Not that I know of. If he does I don't know it.

Q.—Now, this patient, this first patient that you brought to Dr. Brinkley, did he perform the goat gland transplantation in that patient? *A.*—No, sir, Dr. Brinkley didn't do that; Dr. LeGrew did it.

Q.—It was a goat gland operation? *A.*—Yes, sir.

Q.—And how about the second one that was brought? *A.*—The second one I brought he was rejected, there was no operation made on him. He was too far advanced.

Q.—Did they give him treatments? *A.*—No, sir.

Q.—They send him home? *A.*—I brought him back home.

Q.—Is that patient still living? *A.*—I think he is.

Q.—And that was seven years ago? *A.*—It was in the spring of 1933. He went to Shreveport and had something done. I don't know what he had done.

Q.—Now, these present operations, that is, what Dr. Brinkley calls his surgical technic, you understand that term? *A.*—I have seen him do it, yes, sir.

Q.—How many times have you seen him do that? *A.*—Oh, quite a number of times.

Q.—And have you rechecked patients on whom he has done that? *A.*—A number of them.

Q.—What is the average length of the incision that you find, the scar, to be when you recheck? *A.*—Something like about from a half to three-quarters of an inch, and some would possibly be an inch long if there is a hydrocele in connection with it the incision is longer.

Q.—But if it is not it is only half or three-quarters of an inch long? *A.*—Ordinarily where there is no hydrocele.

Q.—With an incision of that size it is your understanding Dr. Brinkley lifts the testicle out? *A.*—He don't lift the testicle out unless there is a hydrocele. He may lift a portion out.

Q.—What portion? *A.*—The head of the epididymis.

Q.—What does he do then, inject something into it? *A.*—He has a needle threaded and he picks up the head of the epididymis and puts the needle around in there and brings it around there and ties it.

Q.—Around what, the head of the epididymis? *A.*—Through the head of the epididymis.

Q.—Now, I don't understand just exactly how that works. Will you explain the position of the epididymis on the testicle so we will get that clear? *A.*—It is attached to the testicle.

Q.—By what? *A.*—By the vas deferens along the side of the testicle. The vas deferens enters at the head.

Q.—It isn't attached by the vas deferens? *A.*—I say the vas deferens enters in the head of the epididymis and the epididymis is attached by the tissue in some way, I don't know.

Q.—Well, then, it is a position like this, like this finger over my fist? *A.*—Yes.

Q.—And the operation you have seen him perform, he just runs through the head of the epididymis with a piece of linen thread and then ties that, does he? *A.*—Yes, I think so. He has a string and he ties it anyway.

Q.—And you have examined that operation closely? *A.*—How is that?

Q.—Have you watched him closely do that? *A.*—Just standing in the operating room looking on, trying to see what I could see.

Q.—In what position is that string after it is tied? Is it vertical or horizontal? *A.*—It is horizontal, it is tied horizontal in a surgeon's knot, I presume.

Q.—Then has he done anything else in there? *A.*—That is all, he drops it back and sews it up.

Q.—Is that all the operation consists of? *A.*—Sometimes he injects the epididymis before he goes through the head of the epididymis.

Q.—Injects it with what? *A.*—Well, mercurochrome, I guess.

Q.—You have never seen him do that, have you? *A.*—Yes.

Q.—And that goes right in the epididymis? *A.*—No, it goes in the vas.

Q.—Well, you mean he injects it in the vas rather than in the head of the epididymis, is that right? *A.*—Injects it in the vas and it goes up it, I guess, because the urine is red after the injection.

Q.—Have you ever seen him cut out a section of the vas? *A.*—Well, I have seen him do that, too.

Q.—Have you seen him tie off a section, ligate a section of the vas? *A.*—They ligate the end next to the testicle. The other end is left open.

Q.—When they ligate the end next to the epididymis there do they also ligate the head of the epididymis in another manner? *A.*—No, that is two different operations.

Q.—Now, Doctor, you are the one that receives and examines the patients in the first instance, are you not? *A.*—Yes, sir.

Q.—You make the diagnosis? *A.*—Yes, sir, the tentative diagnosis.

Q.—Then who makes the final diagnosis? *A.*—Well, here in Del Rio Dr. Brinkley, when he was here, made the final diagnosis. When he was away I think Dr. Petermeyer made the diagnosis, and up at Little Rock Dr. Osburn does it.

Q.—Dr. Osburn is doing most of the surgery up there now, isn't he? *A.*—Yes, sir.

Q.—Dr. Brinkley operates how many times a week? *A.*—I haven't seen him operate but one week since I have been up there. That was this last April a year ago he operated on some forty-five or forty-eight patients that week.

Q.—Just before he left Del Rio was Dr. Brinkley doing very much surgery then? *A.*—He was doing some, not very much. Petermeyer was doing the most of it. That was last year.

Q.—How long did it take him to perform this operation when you witnessed it? *A.*—Well, about from twelve to fifteen minutes.

Q.—They charge $750 for that operation, is that correct? *A.*—That is what I have been told.

Q.—And now, Doctor, these follow-up patients, that is when you recheck them, do you go out to their homes and do that? *A.*—No, they come to the hospital.

Q.—And from all over the country? *A.*—Yes, sir.

Q.—At their own expense? *A.*—Yes, sir.

Q.—Is there no further charge on that? Do you charge them for that? *A.*—No further charge on that, everything is free when they get to the hospital.

Q.—Well, when you discharge a patient from the hospital there you are quite sure that he is cured or relieved before you discharge him, aren't you? *A.*—As a rule. In some instances they might not be relieved altogether, but they want to go home and we let them go and give them full instructions as to diet and prescriptions.

Q.—Then it is this latter class that generally comes back for a recheck, isn't it? *A.*—Well, I don't know, I don't remember.

Q.—Well, you have the record before you when you make the recheck? *A.*—No, sir.

Q.—You don't know which class is the largest? *A.*—Well, I don't know which class would be the larger, as far as that is concerned. The majority of them come back for rechecks, though.

Q.—Have any of them that you have ever seen operated on come back for a recheck, to your knowledge? *A.*—Yes, I remember a few. There are so many of those patients you couldn't recall the names, but there is a complete record made of every patient. I remember a few.

Q.—What per cent of the patients come back for a recheck? *A.*—I couldn't tell you.

Q.—Haven't you an estimate? *A.*—Well, I am inclined to think around 60 per cent come back anyway, maybe more than that. I don't know how many come back.

Q.—It wouldn't be as low as 5 per cent, would it? *A.*—No, sir.

Q.—How many would you say come back during the period of a year, the last year? *A.*—Well, I couldn't say, but we have them there all the time.

Q.—It would be in the thousands, would it? *A.*—No, I don't think it would run into that, not thousands. Possibly it would run up to a thousand that would come back in a year. I haven't kept account of those things and I don't know.

Q.—Now, Doctor, which hospital is it you are stationed at now in Little Rock, the town hospital? *A.*—The city hospital, Twentieth and Schiller Avenue.

Q.—You have seen records on patients up there where all that was done to them was the removing of residuary urine, haven't you? *A.*—Not unless it was a rejection. There are many of our patients carrying residual urine when they come.

Q.—As a matter of fact, relieving them of that will make them feel better? *A.*—Undoubtedly it will, yes.

Q.—They will look better? *A.*—Yes, sir.

Q.—Give them a week's rest and that does them a lot of good and makes them more energetic? *A.*—Undoubtedly.

Q.—After you relieve them of the residuary urine, taking the average case that comes to you as a prostate enlargement, it is quite some time before they will have any complaint again, isn't it? *A.*—I can't say just as to that, whether they are carrying a lot of residual urine. I have patients come to me carrying as much as fifty-four residual, and it would be impossible to draw it all off at once because if you did you would have to put sterile water back because—

Q.—Do you do any of that drawing off? *A.*—I have done some at Del Rio, but not any at Little Rock.

Q.—You work for Dr. Brinkley on a salary, do you not? *A.*—Yes, sir. If you draw it all off when you have so much residual urine you would then have diverticula, drawing too much off.

Q.—Have you observed Dr. Petermeyer operate? *A.*—Yes, sir.

Q.—And the technic he uses is the same as that of Dr. Brinkley? *A.*—The same thing.

(To be continued)

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SATURDAY, MAY 27, 1939

THE ST. LOUIS SESSION

The St. Louis session of 1939 takes its place along with all the other recent annual sessions of the American Medical Association as setting a peak for medical assemblages. Foremost again among the features of the meetings was the Scientific Exhibit, pronounced by most of the physicians in attendance the greatest opportunity for concentrated graduate education available anywhere in the world. In each of the exhibit spaces scientists recognized for their accomplishments in various fields of investigation, teaching and practice demonstrated the highlights of their work. In many places visitors found it difficult to pass through the aisles because of the great numbers of physicians assembled to hear lectures and to see demonstrations. Simultaneously motion pictures were being used to reveal the actual application of new technics in medical care. Special exhibits devoted to the diagnosis and treatment of pneumonia, of diabetes and of fractures were especially useful because they were cooperative features which thoroughly digested the subjects with which they were concerned.

The attendance at the annual session was 7,412, which made this, of course, the largest meeting of physicians ever held in the city of St. Louis, a figure which compared favorably with the numbers attracted by meetings held even in the centers of population. The hotels of the community were taxed to their capacity, as were all the other convention facilities. Yet the quality of material available was so excellent that few physicians complained when minor difficulties were experienced. Indeed, exhibitors in the technical exhibit expressed universal gratification in the attendance and in the interest shown. On the last day of the session all were wellnigh exhausted by the manner in which their capacity had been taxed by the interested questioners. The technical exhibits again indicated that manufacturers realize the value of scientific demonstration rather than salesmanship in interesting the prospective purchaser in the medical field.

In the Scientific Assembly, new technics of education had been developed under the leadership of Dr. James Paullin, chairman of the Council on Scientific Assembly. Combined meetings, particularly on the last day of the session, and the panel discussions which prevailed in the general scientific sessions, attracted large numbers of physicians, whose interest was shown by the fact that questions were asked of the participants in the panels for more than an hour after the preliminary discussions were made. The features of the scientific program were, of course, the newer investigations in industrial medicine, the use of sulfanilamide and sulfapyridine, the vitamins and the glands. This material will be reflected in the pages of THE JOURNAL within the next few months.

The sessions of the House of Delegates were notable for unanimity of action and for the harmony which prevailed. The topic of greatest significance was the point of view in relationship to the proposed Wagner health act. As will be seen from the minutes of the House of Delegates, the reference committee to which this matter was assigned prepared a concentrated analytical report which was adopted by the House of Delegates on the first motion without a dissenting vote and even without any attempt at discussion by individual members. Interesting also to the House of Delegates was the action taken regarding the amendment to the By-Laws in order to increase the capacity and function of the Council on Medical Education and Hospitals. By the new action the Council will be increased to nine members, who are to be selected because of their special interest in the various aspects of medical education, including premedical education, undergraduate and graduate education, as well as the work of the hospitals. A preamble to this resolution indicated that it was the desire of the House of Delegates to keep the work abreast of the newer developments in this field, particularly the certifying boards in the medical specialties, the associated residencies in hospitals, and the work of the special societies which have grown apace in medicine in recent years. Attention was attracted also by the resolution regarding membership of Negro physicians in the American Medical Association and requesting a special representative of women in the House of Delegates. Both the resolutions and the subsequent action seem to have been somewhat misunderstood by the press. Eventually it was made clear that Negroes may hold membership in county medical societies in many of the states, and that even in southern portions of the United States attempts are constantly made to provide Negro physicians with the full scientific benefits of medical organization. Moreover, it was again emphasized that under the democratic system of government the county medical societies must be the determiners of their memberships. Part of the difficulty arises because government relief agencies in the South refuse to utilize the services of Negro physicians for Negro patients, claiming lack of

membership in the American Medical Association as the reason. The resolution asking that a woman be regularly seated in the House of Delegates was defeated. Women have on occasion been regularly elected to the House of Delegates and have served efficiently. There is at present no bar to the election of women by any constituent association.

During the week the press, the radio and all other avenues of publicity were cooperative so that there were numerous broadcasts, both locally and nationally, and the pages of the local press were replete with material developed by the convention. Most of the great press services were also represented and papers at a considerable distance used much material from the St. Louis meeting. The accuracy of the scientific reporting was most commendable.

Entertainment at the St. Louis session was profuse. Every available space in every hotel was constantly in use for special events, many of them arranged by fraternities, alumni associations, honorary societies or specialistic groups and many of them developed by the Woman's Auxiliary in the course of its annual session. Indeed, the officers of the Woman's Auxiliary expressed themselves as more than pleased with the annual session and with the arrangements that had been made. The House of Delegates was entertained on the opening night by a puppet show in which leaders in scientific and other medical affairs were caricatured in relationship to current activities. Particularly impressive was the opening address of Aesculapius, beautifully delivered with organ accompaniment:

Attention Sires—for I would have you gaze
Upon yourselves—as mystic mummers haze
Your mortal imperfections!

Out of the realm of shadows I have come
And with me brought my merry puppet crew.
They've acted—for the Pharaohs—at their Court,
With wise men of old Persia did consort,
And now they hold their mirror up to you.
You are my own, and we have welded strong
Eternal bonds that make us act as one.
Together we have battled, heart and soul,
'Gainst error with perfection as our goal
While pledging love of ease and self to shun.

The curtain rises now upon the proof
Of stupid man's unwillingness to see
What our self sacrifice has brought
As battles for his life and health we've fought
In shielding him from mortal's end's decree.

The farewell speech of Aesculapius reflected the inspiration of the meeting:

I leave you now, but not for long I trust,
Affection's made of heart throbs—not of dust.

The way of flesh is weak, but be ye strong
My precepts follow and ye'll ne'er do wrong.

Continue sons the poor and weak to aid
In gold of grateful hearts, you will be paid.

Your ear, your eye, your brain, your heart, your hand
You lend to others when you join my band.

Your ear must list to every cripple's plea
Your eye must hurt of soul or body see.

With kindly hand, the tear of sorrow dry
Though weary, haste to answer suffering's cry.

Your brain and heart must find the easy road
For straggling feet that stumble 'neath their load.

Be fearless when you level straight your lance;
With life and health at stake, ne'er trust to chance.

Before we go my puppets bid me say
We love you all and with you fain would stay.

If we have made you laugh, with joy we're filled.
To bring smiles to you is all we willed.

Adieu! We've had a happy time
With hearts entwined, we'll all sing Auld Lang Syne.

DR. JAMES B. HERRICK RECEIVES DISTINGUISHED SERVICE AWARD

The second award of the Distinguished Service Medal and citation by the American Medical Association was tendered during the annual session at St. Louis to Dr. James Bryan Herrick of Chicago. The first award last year was made to Dr. Rudolph Matas of New Orleans. By the system of selection this award has already come to be recognized as one of the most important within the gift of the Association. After nominations are made through the Distinguished Service Award Committee, five names are sent by them to the Board of Trustees. The Trustees select three of the five, and the House of Delegates, at its first session, selects one of the three. This year the three names nominated to the House of Delegates were those of Dr. James Bryan Herrick, Dr. Chevalier Jackson of Philadelphia, and Dr. Edward Jackson of Denver. The report of the House of Delegates published in this issue indicates the vote cast.

Dr. James Bryan Herrick was born Aug. 11, 1861, in Oak Park, Ill. He attended Oak Park High School and the Rock River Seminary at Mount Morris, Ill. He then received his A.B. degree from the University of Michigan in 1882. For a time he taught in the Central High School at Peoria, Ill., where he acquired a love of good literature and a facility for expressing himself in the English language. Through an association with Moses Coit Tyler he developed a great interest in Chaucer. Dr. Herrick then took up the study of medicine, receiving the degree of Doctor of Medicine from Rush Medical College in 1888. His internship was served in the Cook County Hospital and in 1889, after completing his internship, he married Miss Zellah P. Davies of Oak Park.

Dr. Herrick has contributed greatly to the periodical literature of medical science, he has taught in his Alma Mater and he is widely known for his contributions particularly to our knowledge of coronary thrombosis. Indeed, it has been said that his articles on coronary thrombosis have done more to force clinical recognition of the condition and to stimulate clinical and experi-

mental study than all other writings on the subject. Probably most significant was the contribution on "Clinical Features of Sudden Obstruction of the Coronary Arteries," published in 1912. In his career as a physician he also has been instructor in medicine at Rush Medical College from 1890 to 1894, adjunct professor from 1894 to 1900, professor from 1900 to 1927, and he is now emeritus. He has been attending physician at the Presbyterian Hospital in Chicago since 1895 and a member of the board of trustees of the Lewis Institute since 1903. He has also been president of the Association of American Physicians, of the Institute of Medicine in Chicago, and of the American Association of the History of Medicine. In 1930 he received the Kober Medal of the Association of American Physicians for Research and Scientific Medicine. In 1931 he gave the sixth Harvey Society Lecture at the New York Academy of Medicine on the Coronary Artery in Health and Disease, and in 1933 he was elected honorary fellow of the New York Academy of Medicine. In 1932 he received the honorary degree of Doctor of Laws from the University of Michigan, and in January 1939, at the 194th convocation of the University of Chicago, the honorary Doctorate of Science was conferred upon him.

Throughout his career he has been of vast assistance to young men and a builder of medical institutions. He was founder and first president of the Chicago Society of Internal Medicine. From 1928 to 1934 he was a member of the Judicial Council of the American Medical Association. By this second award the House of Delegates still further enhances the significance of its Distinguished Service Medal.

ENZYME THERAPY OF GRAM-POSITIVE INFECTIONS

The isolation of a soil bacillus capable of destroying gram-positive micro-organisms in the animal body seems to offer an encouraging lead toward a new therapeutic procedure. About ten years ago Dubos [1] of the Rockefeller Institute began a systematic search for environmental saprophytes. His initial attempt sought some nonpathogenic fungi or bacteria which could use the type-specific capsular polysaccharide of the pneumococcus. Finally from certain peat soils a saprophytic bacillus was isolated which was apparently able to decapsulate type III pneumococci in vitro. Enzymes isolated from this bacillus, however, were inactive against other types of pneumococcus and did not have any effect on nonpneumococcic polysaccharides. Dubos found that this saprophytic enzyme would protect mice against type III pneumococcus infections but was without general pneumococcidal action. Moreover, even though the enzyme did decapsulate type III pneumococci it did not demonstrably injure the living portion of the bacterial cell.

Dubos [2] therefore attempted a new technic, recently described. Soil samples were repeatedly moistened with aqueous suspensions of gram-positive cocci. After many months of selective adaptation an unidentified spore-bearing bacillus was isolated from one soil sample which was capable of producing lysis of living gram-positive micro-organisms. This soil bacillus is gram specific, attacking equally well staphylococci, streptococci, pneumococci and all other types of gram-positive micro-organisms thus far tested. The soil bacillus, however, is wholly inert against the gonococcus and other gram-negative bacteria.

From subcultures of this lytic bacillus, it is reported, the active principle can be set free by autolysis and can be isolated in a state of relative purity by acid precipitation at refrigerator temperature. The active principle thus isolated is heat labile and is nondialysable through a collodion membrane. One mg. of the dried extract is capable of producing lysis of 1,000,000,000 living pneumococci within one hour. Staphylococci and streptococci are also acted on but somewhat less rapidly. Lytic action is most rapid at 37 C., all action ceasing at 0 C. As little as 0.0001 mg. of the dried extract added to 5 cc. of nutrient broth will prevent the multiplication of a massive inoculum of pneumococci (e. g. 10,000,000 micro-organisms). Bacteriostasis of staphylococci and streptococci requires somewhat larger amounts of the extract. Streptococci incubated in the presence of even minute traces of extract, however, lose their ability to reduce methylene blue in the presence of dextrose. Morphologic alterations are not demonstrable in these physiologically deficient streptococci.

When tested for its possible therapeutic value the Dubos lysin has been found effective in preventing and curing gram-positive infections in laboratory animals. A single intraperitoneal injection of 2 mg. of the extract, for example, will protect a white mouse against as many as 100,000 minimum lethal doses of type I, II, III, V or VIII pneumococcus (other types not yet tested). Protection against even larger doses of pneumococci may be effected by repeated injections of the saprophytic extract. Moreover, the extract exerts a curative effect when administered several hours after experimental infection with virulent pneumococci. Similar therapeutic effects have been demonstrated after experimental infections with hemolytic streptococci.

The possible therapeutic value of the Dubos enzymes in human medicine has not yet been tested. If this new lytic agent should prove to be of positive clinical value, the Dubos technic of selective cultivation of environmental flora will stimulate further experimentation. Perhaps soil bacteria effective against tubercle bacilli or other pathogenic groups may yet be found.

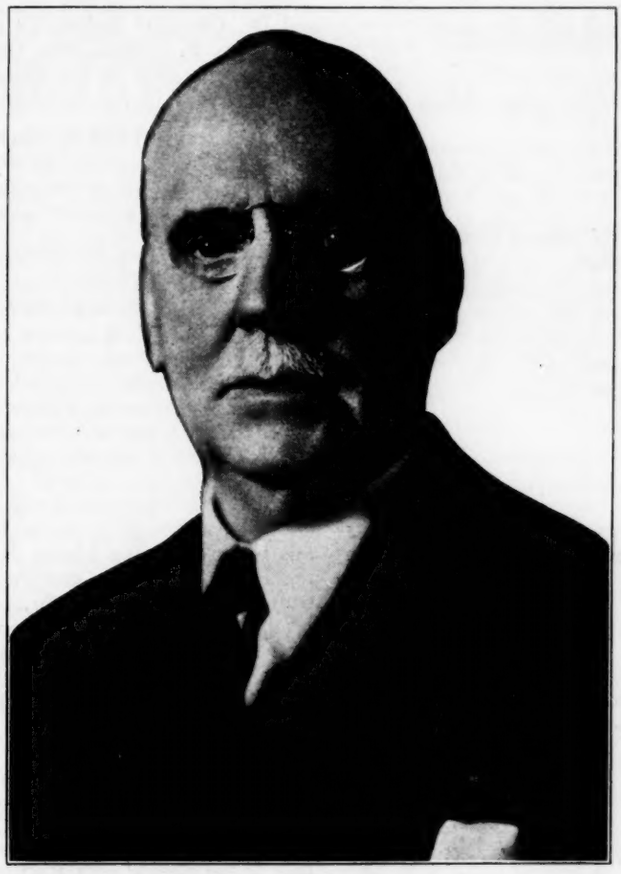
1. Dubos, René J., and Avery, O. T.: J. Exper. Med. **54**: 51 (July) 1931. Avery and Dubos, ibid., p. 73.

2. Dubos, René J.: Proc. Soc. Exper. Biol. & Med. **40**: 311 (Feb.) 1939.

Current Comment

NATHAN B. VAN ETTEN—PRESIDENT-ELECT

The general practitioner as a leader in medical affairs was recognized by the House of Delegates of the American Medical Association in the St. Louis session when it elected Nathan Bristol Van Etten to be President for the years 1940-1941. Dr. Van Etten received his degree in medicine from Bellevue Hospital Medical College in 1890 and he has practiced in New York City since that date. In 1906 he became visiting physician to the Union Hospital and has been constantly associated with that hospital. He has also been medical director of the Morrisania City Hospital since 1929 and president of its staff since 1932. Throughout his career he has given unstintingly of himself to every medical and public effort to which he was called. His quality of leadership is shown by the fact that he has been president of the Bronx County Medical Society, of the Bronx Borough Medical Society, of the New York Society of Medical Jurisprudence, of the Medical Alumni of New York University, of the Greater New York Medical Association, and also president and trustee of the Medical Society of the State of New York. This long list of presidencies reaches its culmination in election to the presidency of the American Medical Association. In the Association he served as a member of the House of Delegates in 1920 and 1923, continuously from 1926 through 1935, and also in the special session of 1935 which considered the Social Security Act. He was elected vice speaker of the House of Delegates in 1933 and served in that position until he was elected speaker in 1935. While in the House of Delegates he was a member and frequently chairman of many important reference committees. While speaker in 1936, 1937 and 1938 he earned the respect and admiration of the delegates by his calm manner, his absolute justice, his leadership and his unwavering fidelity to the principles of the American Medical Association. In his address of acceptance, Dr. Van Etten again dedicated himself to the work of the Association and made a plea for united action, saying:



NATHAN B. VAN ETTEN, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

> Yesterday you adopted a report defining your position in relation to the proposed Wagner health act. It will have small value, however, unless the whole medical profession of the United States is educated to fully understand it.
>
> Every delegate must realize his official obligations as never before and carry home to every single practitioner in his state a full consciousness of the importance of this declaration of principles. That practitioner is potentially one of the most powerful persons in the democracy. If he can be made to see his duty to his country and educate his patients to a realization of the dangers of centralized control of medical practice, your action of yesterday will be sustained.
>
> In the name of welfare, gentlemen of the House, the practice of medicine as you know it and as you hoped it would become is to be destroyed. The functions of the most highly educated group of professionals in the world are to be taken over by bureaus operated by adventurous amateurs.
>
> The time has come for the concerted action of every doctor in the United States.

LETHAL METHEMOGLOBINEMIA

Bradley and his colleagues [1] of the University of Wyoming have shown that bovine asphyxial death following the ingestion of certain toxic hays is due to the formation of methemoglobin in the blood stream. In one region of Wyoming in 1934 twenty-nine head of cattle died within a few hours after eating well cured oat hay. The Wyoming investigators, therefore, studied hay intoxication experimentally. They found that 11 pounds (5 Kg.) of one local sample of oat hay would kill a 350 pound (160 Kg.) steer in about nine hours, that a water extract of the same hay caused another steer to show asphyxial symptoms from which he later recovered. In both cases a chocolate brown color was observed in the blood, which was shown chemically and spectroscopically to be due to methemoglobin. The erythrocytes are not laked, and the plasma remains clear and straw colored. Another calf fed a smaller amount of toxic hay did not develop symptoms or methemoglobin at the end of six hours. By the ninth hour, however, the animal presented typical symptoms and had a high concentration of methemoglobin in the blood stream. By the end of twenty-four hours, both symptoms and methemoglobin had disappeared. Toxic oat straw develops in certain restricted areas in Wyoming and Colorado. Whether this is due to soil conditions, to some unrecognized toxic weed or to a fungous or virus infection of the oats has not yet been determined. The fact that the oat toxin is water soluble and heat stable, however, will be of great value in its ultimate isolation and identification.

1. Bradley, W. B.; Beath, O. A., and Eppson, H. F.: Science **89**: 365 (April 21) 1939.

ORGANIZATION SECTION

PROCEEDINGS OF THE ST. LOUIS SESSION

MINUTES OF THE NINETIETH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. LOUIS, MAY 15-19, 1939

HOUSE OF DELEGATES

First Meeting—Monday Morning, May 15

The House of Delegates convened in the Ball Room of the Hotel Statler and was called to order at 10 a. m. by the Speaker, Dr. H. H. Shoulders.

Preliminary Report of the Reference Committee on Credentials

A preliminary report of the Reference Committee on Credentials was submitted by the chairman, Dr. Deering G. Smith, New Hampshire, who reported that 153 delegates with proper credentials had registered and that that number was one of the largest registrations in advance of the meeting.

Roll Call

The roll call was dispensed with, on motion of Dr. E. G. Wood, Tennessee, seconded by Dr. Arthur J. Bedell, Section on Ophthalmology, and carried.

The Speaker announced that the report of the Reference Committee on Credentials would constitute the roll call of the House for the transaction of business.

Adoption of Minutes of San Francisco Session and of the Special Session

On motion of Dr. A. T. McCormack, Kentucky, seconded by Dr. John Q. Myers, North Carolina, and carried, the House dispensed with the reading of the minutes.

It was moved by Dr. John Q. Myers, North Carolina, seconded by Dr. A. T. McCormack, Kentucky, and carried, that the minutes of the San Francisco Session be adopted as printed.

Dr. Charles E. Mongan, Massachusetts, moved the adoption of the minutes of the Special Session held in Chicago in September 1938. The motion was seconded by Dr. J. R. Westaby, South Dakota, and carried.

Distinguished Service Award

Dr. Arthur W. Booth, Chairman of the Board of Trustees, presented the following report:

The Committee on Distinguished Service Award of the American Medical Association submitted five names to the Board of Trustees. The Board, in accordance with chapter VI, section 5, of the By-Laws, has selected by ballot the following names for presentation to the House in alphabetical order: Dr. James B. Herrick, Chicago; Dr. Chevalier Jackson, Philadelphia; Dr. Edward Jackson, Denver.

The Speaker appointed as tellers Drs. Harvey F. Garrison, New Jersey; William A. Ellingwood, Maine, and Charles B. Reed, Illinois.

The tellers spread the ballot and the Secretary announced that 154 votes were cast, of which Dr. James B. Herrick received 63; Dr. Chevalier Jackson 69 and Dr. Edward Jackson 22.

Since no nominee received a majority of the votes, the Speaker announced that another vote would have to be taken and that, in accordance with the rules, the name of the nominee receiving the smallest number of votes, namely, Dr. Edward Jackson, would be dropped from the ballot.

Dr. Deering G. Smith, Chairman, Reference Committee on Credentials, stated that 165 delegates had registered, and the Secretary announced that Dr. James B. Herrick received 81 and Dr. Chevalier Jackson 79 votes. The Chairman declared Dr. James B. Herrick, who received a majority of the votes cast, to be elected by the House to receive the Distinguished Service Award of the American Medical Association.

Address of the Speaker, Dr. H. H. Shoulders

The Vice Speaker, Dr. R. W. Fouts, Omaha, presided while the Speaker, Dr. H. H. Shoulders, read his address, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

Mr. Speaker, Members of the House, Guests:

By your suffrage, I have the honor of greeting you this morning as your presiding officer.

Since last we met I have taken occasion to review, in a way, the proceedings of this House for a period of years. It was undertaken as a dull task but proved to be an interesting experience. The effect was, among others, to enhance my admiration for the genius and loyalty of this House of Delegates.

It must be remembered that this body is composed of 174 delegates, representing the medical profession in every state in this Union, including Alaska, Hawaii, the Panama Canal Zone, the Philippine Islands and Puerto Rico. You are so widely scattered that there is little opportunity for contact with one another in the interim between sessions. A wide variety of local conditions obtain in the areas represented. Every possible shade of opinion and every possible local interest, both personal and professional, are represented. You are democratic in concept, composition and conduct.

The House is in session for a few hours each day for not more than three days as a rule. A relatively small amount of time is available for deliberation and debate. No ready reference library is at hand. Almost every session of the House has been called on to consider and act on issues of vital importance not only to the medical profession but to the people of this country as a whole.

Notwithstanding all these conditions, one finds in the Proceedings of the House a golden thread of consistency which runs straight through all the actions taken on all issues presented which in any way touch the fundamental principles to which you have given allegiance. It would be natural, under the circumstances, for errors to occur and for actions taken in one session to be in conflict with those taken in another session one or many years before. Yet this has not occurred.

It is of interest and may be of value to consider why this is so. Such a striking result might easily be explained if your actions were controlled by a dictator or a boss. Fortunately, this House is not subservient to any such person, and more fortunate still is the fact that no one seeks such power, nor could one obtain it under our democratic organization.

It seems to me that not one but several factors are responsible for this result. Of first importance is our code of ethical principles. Not alone because it is in existence, but because the spirit of it is so deeply rooted in our professional life, it has given to us, as a profession, a philosophy. Our loyalty to these principles is not based on self interest; their appeal is to the noblest instincts of mankind and the highest concepts of human relationship and conduct. Our convictions with regard to them give us courage to declare ourselves in relation to them when occasion arises. Some years ago I heard a philosophy expressed to the effect that a man is fortunate who finds himself anchored

to ideals. The reason given for such a philosophy was that the existence of a man is transitory but that ideals live on through the ages.

Another factor, possibly of greater importance than either of the other two, is our faith. We have faith in the merits of democratic processes as a means for the accomplishment of the highest and best in human welfare. By such processes our philosophy has been evolved. They have not stood in the way of progress. To the contrary, they have augmented sound progress, as our history shows. We know that these processes appear to be slow at times. We know also that attempts to accomplish desirable ends in a hurry by brushing these ideals aside may have the effect of destroying the most important element in human welfare; viz., freedom itself.

We know that, if we doctors had the power to dictate to patients instead of advising them, a still greater increase in longevity might result. But we know also that such an achievement, at the price of freedom, would be the worst bargain that could possibly be made. We have never sought such power for ourselves. We naturally oppose it in others.

We do believe in coordinated effort on a democratic basis. We believe in the closest coordination of effort as between the legislative, executive and judicial branches of the American Medical Association on the basis of mutual respect and confidence—all working to a common purpose. We have faith in one another. There is all about us obvious evidence of lack of faith. There is lack of faith of one group of citizens in another group. There is lack of faith in government and in the various agencies of government. There is lack of faith of one government in another government. Some citizens have expressed by word and act a lack of faith in the merits of democratic processes. Furthermore, influences have been at work and divers means have been employed to destroy faith in these processes.

Nothwithstanding all these conditions and influences, the record shows that we have stood by our faith. We have held on to our ideals. In my opinion, we have thus earned a liberal measure of public confidence. I know of no other group of men who have stood by convictions or even observed pledges with greater fidelity. I entertain the belief that the time will come again, maybe soon, when a grateful public will applaud our loyalty to ideals and principles, as was done not so long ago.

May I suggest that we approach the duties of this session with such a faith in one another, in the several departments of our organization and in the future.

In Memoriam

It becomes the melancholy duty of the Speaker to call the roll of those who have in times past responded to the roll call of this House but who in the last year have responded to the last roll call on earth.

A. W. Baugh, Pennsylvania, 1913.
Carl Boettiger, New York, 1935 Special Session; 1936.
Nelson O. Brooks, New York, 1917-1918; 1926.
John W. Burns, Texas, 1922-1932; 1934; 1935 Special Session; 1935-1938; 1938 Special Session; Member of Judicial Council, 1937—.
Richard C. Cabot, Massachusetts, 1907; 1915.
John Champlin, Rhode Island, 1902-1904; 1906-1909; 1912.
A. J. Crowell, North Carolina, 1909; 1915; 1922; 1925-1926; 1929-1931.
George Edmund de Schweinitz, Pennsylvania, President-Elect, 1921-1922; President, 1922-1923.
T. A. Felch, Michigan, 1903; 1909.
Frederick H. Flaherty, New York, 1927-1932; 1935-1938.
J. C. Flippin, Virginia, 1934; 1935; Special Session; 1935-1938; 1938 Special Session; Member, Council on Scientific Assembly, 1936—.
P. Maxwell Foshay, Ohio, 1902-1903.
L. M. Gates, Pennsylvania, 1913; 1915.
J. Norman Henry, Pennsylvania, 1926-1931; 1933.
Vard H. Hulen, Texas, 1911.
J. Allen Jackson, Pennsylvania, 1932-1934; 1935 Special Session; 1935-1937.
Charles H. Goodrich, New York, 1932-1934; 1935 Special Session; 1936-1938.
Alexander Lambert, New York, 1911; Third Vice President, 1909; President-Elect, 1918-1919; President, 1919-1920; Member of Judicial Council, 1911-1918 (chairman of that council, 1912-1918).
S. L. Ledbetter, Alabama, 1910.
Hugh F. Lorimer, Ohio, 1908.
Philip Marvel, New Jersey, 1902; 1923; 1928-1930; 1934; 1935 Special Session; Third Vice President, 1900-1901; Trustee, 1904-1920; Vice President, 1925-1926.
Ephraim R. Mulford, New Jersey, 1929-1934; 1935 Special Session; 1935-1937; 1938 Special Session.
J. H. Murray, Pennsylvania, 1924; 1927.
Frank P. Norbury, Illinois, 1904.
Hugh T. Patrick, Illinois, 1912, 1919-1920.
William G. Ricker, Vermont, 1925-1928; 1930; 1932-1934.
William H. Seemann, Louisiana, 1915-1916; 1919-1926; 1930-1934; 1935 Special Session; 1935-1938; 1938 Special Session.
Walter H. Snyder, Ohio, 1905.
H. W. Van Allen, Massachusetts, 1912-1913.
Frederick L. Van Sickle, Pennsylvania, 1916-1917; 1923.
Victor G. Vecki, California, 1913-1916; 1919; 1922-1929.
H. D. Wood, Arkansas, 1927.

The lives of these men constitute a part of our living record of achievement.

It is fitting that the House pause at this moment to take some appropriate action in remembrance of them.

At the request of the Vice Speaker the members of the House arose and stood for one minute in silent tribute to the memory of departed delegates.

An amended motion of Dr. A. T. McCormack, Kentucky, that when the House adjourns it adjourn in memory of all the former members of the House of Delegates who have passed on was seconded and carried.

Reference Committees

The Speaker announced the personnel of the Reference Committees:

SECTIONS AND SECTION WORK

George Gray Ward, Chairman.....Section on Obstetrics and Gynecology
Thomas B. Throckmorton.....Section on Nervous and Mental Diseases
Curtice Rosser.....Section on Gastro-Enterology and Proctology
Francis F. Borzell.....Pennsylvania
William R. Molony Sr.....California

RULES AND ORDER OF BUSINESS

John H. O'Shea Chairman.....Washington
James R. McVay.....Missouri
John Q. Myers.....North Carolina
Walter B. Martin.....Virginia
Samuel P. Mengel.....Pennsylvania

MEDICAL EDUCATION

Harvey B. Stone, Chairman.....Maryland
Charles W. Stone.....Ohio
George Blumer.....Connecticut
Andrew F. McBride.....New Jersey
E. H. Skinner.....Section on Radiology

LEGISLATION AND PUBLIC RELATIONS

Holman Taylor, Chairman.....Texas
L. G. Christian.....Michigan
Karl S. J. Hohlen.....Nebraska
Thomas P. Farmer.....New York
G. Henry Mundt.....Illinois

HYGIENE AND PUBLIC HEALTH

A. T. McCormack, Chairman.....Kentucky
W. F. Draper.....United States Public Health Service
A. A. Walker.....Alabama
Guy W. Wells.....Rhode Island
Edward M. Pallette.....California

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

Charles E. Mongan, Chairman.....Massachusetts
Edgar A. Hines.....South Carolina
T. K. Gruber.....Michigan
Felix P. Miller.....Texas
E. G. Wood.....Tennessee

REPORTS OF OFFICERS

Floyd S. Winslow, Chairman.....New York
William H. Myers.....Georgia
James Q. Graves.....Louisiana
Elbridge J. Best.....California
Forrest J. Pinkerton.....Hawaii

REPORTS OF BOARD OF TRUSTEES AND SECRETARY

John H. Fitzgibbon, Chairman.....Oregon
J. Newton Hunsberger.....Pennsylvania
Grant C. Madill.....New York
Charles W. Roberts.....Georgia
W. F. Braasch.....Minnesota

CREDENTIALS

Deering G. Smith, Chairman.....New Hampshire
Raymond L. Zech.....Washington
H. B. Everett.....Tennessee
A. A. Ross.....Texas
George R. Dillinger.....Indiana

MISCELLANEOUS BUSINESS

Henry C. Macatee, Chairman.....District of Columbia
Ben R. McClellan.....Ohio
Fred Moore.....Iowa
William Weston.....Section on Pediatrics
E. S. Hamilton.....Illinois

Address of President Irvin Abell

The Speaker resumed the Chair and presented the President, Dr. Irvin Abell, Louisville, Ky., who delivered the following address, which was later referred to the Reference Committee on Reports of Officers, with the exception of that portion referring to the Wagner National Health Bill, which was referred to a Reference Committee on Consideration of the Wagner National Health Bill that was subsequently appointed:

Mr. Speaker and Members of the House of Delegates:

The past year has seen peak development in many of the activities of the American Medical Association. An all time high has been reached both in membership in the Association and in subscriptions to THE JOURNAL. The various councils and bureaus have been continuously active in promoting their scientific and educational objectives. Liaison meetings between the Council on Foods, the Council on Pharmacy and Chemistry and representatives of the federal bureaus have developed assistance in the administration of the Food, Drug and Cosmetic Act. The newly created Council on Industrial Health sponsored a conference held in Chicago in January attended by representatives of the various agencies interested in industrial health and laid the ground work for improvement in this special field.

The Council on Medical Education and Hospitals has devoted much thought and effort to the problem of graduate education and training with the object in view of establishing standards and increasing facilities for the acquisition of training on a basis of the requirements established by the specialty boards. This problem is an intricate one but gives promise of solution with the cooperation of the agencies interested in it. Events of momentous importance involving medicine have evolved from the changing social thought of recent years. The recommendations of the Technical Committee on Medical Care, a subcommittee of the Interdepartmental Committee to Coordinate the Health and Welfare Activities of the federal government, presented to the National Health Conference, held in Washington last July, envisaged a comprehensive program for the participation of the federal government in health activities. At the special session of the House of Delegates held last September these recommendations were carefully considered and the attitude of the American Medical Association toward them was clearly defined in the report of the reference committee unanimously adopted by the House.

The committee appointed by the Speaker of the House in compliance with its instructions has held two all day conferences with the Interdepartmental Committee, the first one October 31 in response to the resolution of the House of Delegates which directed it to confer with such agency or agencies as might be designated by the President of the United States, the second one January 15 on the invitation of Miss Josephine Roche, extended through Mr. G. St. J. Perrott, secretary of the Interdepartmental Committee. Since the Interdepartmental Committee did not, at either meeting, submit a draft of the proposed legislative enactment for the translation of its recommendations into activity, the discussions were of necessity limited to principles. Your committee closely adhered to the principles and policies adopted by the House of Delegates both at its special session and at its previously held regular session. Discrepancies between the data and statistics assembled by the Technical Committee on Medical Care and those assembled by the American Medical Association were emphasized where such might ultimately influence the application of the Technical Committee's recommendations. Expansion of public health, maternal and child welfare services with limitation of curative measures to private practice where available; utilization of vacant beds in present hospitals on a per diem basis; the construction of new beds and diagnostic health centers on a basis of economic, geographic and health needs with standards for hospital administration and for professional personnel; perpetuation of hospitals and health centers; the formulation of plans for the care of the medical needy determined by local and financial needs under medical and local state supervision; the approval of sickness compensation and of voluntary insurance for hospital and medical service, and unqualified opposition to the suggestion in recommendation IV that the individual states initiate studies and plans for the care of all their people on a tax paid basis are briefly the points for which your committee contended. Compulsory sickness insurance is a more appealing and a more euphonious title than the one which accurately identifies it, namely sickness tax. Mr. Falk of the Technical Committee tentatively set the level at which compulsory plans would operate at an income of $3,000 or less. Federal statistics reveal that but 7 per cent of the population enjoy an income above this amount, if and when a compulsory plan becomes operative in all the states at this level, 93 per cent of the population will be covered thereby.

Our interview with the President was held at the suggestion of and was arranged for by the Surgeon General of the Public Health Service. President Roosevelt was most gracious and affable and discussed both his interest in an increase in hospital facilities and a wide distribution of medical care on a basis of need and as well the budgetary difficulties which the program entails. At his suggestion the chairman of your committee briefly but clearly outlined the position of the American Medical Association to each of the five recommendations made by the Technical Committee.

On January 23 the President presented to the Congress his message on the National Health Program with a recommendation for its careful consideration and study. On February 28 Senator Wagner of New York introduced into the Senate of the United States a bill, S. 1620, entitled "A Bill to provide for the general welfare by enabling the several states to make more adequate provision for public health, prevention and control of disease, maternal and child health services, construction and maintenance of needed hospitals and health centers, care of the sick, disability insurance and training of personnel." Although the bill is actually an amendment to the Social Security Act, the bill proposes that, if it is enacted, it be called the "National Health Act of 1939." Assuming that this bill has the endorsement of the federal agencies responsible for the National Health Program, it has afforded opportunity to study the means by which it proposes to put into effect the recommendations of the Interdepartmental Committee and by comparison to see how far it harmonizes with the approval in principle given by the House of Delegates at its special session. The American Medical Association at no time expressed its opinion on the amounts of money to be expended in such a program, but it is of interest to note that the Wagner bill proposes an expenditure of $98,250,000 for the fiscal year of 1940, $123,500,000 for the fiscal year of 1941 and $334,000,000 for the fiscal year of 1942, with no limit on the amounts during 1941 and 1942 for public health work, for grants for mental and tuberculous hospitals, for grants for medical care, for grants for temporary disability compensation and for administration, and, further, that for the fiscal years subsequent to 1942 there is no specified limit on expenditures for the accomplishment of any of the purposes of the act.

While no specific mention is made of compulsory sickness insurance, the measure introduces the principle of allotment of federal money to the individual states for medical care, by the Social Security Board, without specifying the means to be used in the individual states for providing such service other than to demand the approval of the Social Security Board, being silent as to the permissible extensions and improvements of medical care that a state may make and as to whether such care shall be provided through a state medical service or by a system of state health insurance or by payment for services on a fee basis. The administrative agencies mentioned in the bill are the Children's Bureau, the United States Public Health Service and the Social Security Board, final and complete authority for carrying out the purposes of the act resting in these three departments. Granting the occurrence in a rural or isolated community of disease which from their classification would come under each and all three of these agencies, satisfactory and competent administration would seem extremely difficult, if not impossible. Such a contingency but enhances the contention of the American Medical Association for a Minister of Health, a unified agency for the correlation of all health activities. The bill does not provide for means of determining the local need for the various services it proposes to furnish, a matter of importance repeatedly

emphasized by the House of Delegates, and no stipulation as to the utilization and improvement of existing hospitals is mentioned. These are but a few of the points that demand your consideration and study in aiding in the development of a health program for the nation to which we are by experience, knowledge and conviction committed, its fundamental objectives being an expansion of public health, maternal and child welfare services, approved care to the indigent and the medically indigent, and an extension of hospital and diagnostic facilities.

Another movement which intimately concerns medicine is to be found in the activities of the Department of Justice in securing an indictment of the American Medical Association for monopolistic practices operating in restraint of trade. During the past summer an assistant to the Attorney General gave releases to the press in Washington accusing the American Medical Association of illegal practices and threatening it with criminal prosecution, thereby promoting an antagonistic mental attitude on the part of the public toward the Association. In a release of August 1 the following appears: "In the event that voluntary cooperation results in constructive proposals going beyond the elimination of illegal practices, the Department would adhere to its previously announced policy of submitting such proposals to the court as a basis for a consent decree." In other words, in order to escape trial the American Medical Association must admit guilt and agree to do more than the law requires. On December 1 another assistant to the Attorney General, in addressing a public audience in Milwaukee, outlined the "charges which the Department of Justice is presenting to the Grand Jury," "what the Department's lawyers" had learned, "the background of the controversy," "that the American Medical Association has adopted an official policy of opposition," and so on. This particular attorney at the time was engaged in conducting the inquiry by the grand jury and later signed the indictment brought by it. From time immemorial grand jury investigations have been presumed to be secret, in order to prevent antagonistic mental attitudes on the part of prospective jurymen who will sit on the trial jury when and if an indictment is obtained. One can but wonder if the actions of these two attorneys are in harmony with the ideals and traditions of the American Bar Association.

The fundamental point at issue in the indictment of the American Medical Association is as to where the power of policing professional organizations shall lie. Heretofore by common consent this power has been vested in the organizations themselves, which have established standards of qualification, training, attainment, character and conduct for those desiring to enter their ranks and for the members desiring to remain in their ranks. This power has been exercised in good faith and with good intent for the protection of the public. Should a conviction be obtained and upheld by the appellate courts, the policing power would be transferred to the federal government, which would then determine qualifications for membership, articles of expulsion, and the like. While this legislation was primarily aimed at the American Medical Association, it is apparent that many other organizations, professional and business, have an interest in it, since that which applies to one will apply to all. The House of Delegates, at the San Francisco session, declared in no uncertain terms its intention to see the then threatened indictment through to its ultimate conclusion; the principle involved is one on which there can be no compromise. As your President, it has been my duty and my privilege to visit many of the component bodies of the American Medical Association and it is with definite gratification and pleasure that I bear witness to their loyalty to the principles for which the Association stands and of their earnest and sincere desire to cooperate in bridging the gap between the accumulation of medical knowledge and its equable, wide distribution in the shape of good medical service.

In conclusion permit me to express to the members of this House and through them to the membership of their respective bodies my profound gratitude and thanks for their constructive criticism, their loyal support and their faithful cooperation in maintaining the ethical institution of medicine, the record of which today stands unparalleled in all the world in the prevention, control and cure of disease.

Address of President-Elect Rock Sleyster

The Speaker presented the President-Elect, Dr. Rock Sleyster, Wauwatosa, Wis., who delivered the following address, which was later referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

The interest and attention of this body, when in annual session the past few years, has been largely occupied with threats to the science of medicine by social and governmental agencies, ambitious to revolutionize orderly procedure in the continued development and distribution of medical care. Such agencies have promoted an impression that there has been a "breakdown" in medicine as there has been in agriculture, industry, railroads, building and manufacturing. We know that this is not true. We know that medicine, in fact, is about the only major endeavor which has not failed but on the contrary has improved its quality of service as well as its distribution during the depression years. Such needs as exist are only those coexistent with the needs of the necessities of life; they have been met by American medicine as no other needs have been satisfied.

I have wondered, during the past few sessions of the House of Delegates, if possibly, with attention focused on these threats, we have not paid too little attention to the purposes for which the American Medical Association was organized and to the established activities in which it is engaged. I dimly recall one of the old "Dooley" stories of how the hoodlums of the third ward stood in front of Mrs. Murphy's house calling her names, she so busy talking back to them from the front door that she did not see or hear two of their delegation raiding her icebox via the kitchen entrance. And so this morning I want, from this point, to ignore the noise out in the street and briefly to redirect your attention to some of our activities and to some threats to them from an entirely different quarter.

Previous reports to the House of Delegates have called to your attention growing concern over the ever increasing number of medical organizations. While we have made a gain of approximately 14,000 members in the past five years, a number equal to the entire memberships of the Michigan, Ohio, Indiana and West Virginia state societies, and a contradiction to any claims of strife and disintegration in our ranks, the fact remains that many organizations, some perhaps unnecessary, are a drain on the time and interest of our members. After all, the American Medical Association always has assumed and always must assume the responsibility of medical progress and the defense of all that has been accomplished in the past. No other group is representative of all branches of medicine, no other group has the organization necessary, and no other group includes in its membership practically all members of all independent groups.

Most of these independent societies were originally organized for purely scientific purposes in some particular field. I believe most of their members agree that matters of broad public policy should, and must, be the responsibility of the American Medical Association. Yet occasionally an officer of one of these societies, in interview or speech, expresses endorsement of policies in conflict with those established by this House, representative of the whole profession. No one would deny such officer the American right to express his individual opinion —but is he authorized to speak in the name of his society? An officer of the American Medical Association may not voice unapproved policies, and it must be remembered that in the public eye an officer cannot be dissociated from his organization. In these days of danger to medicine, each scientific organization, if in agreement that primary responsibility rests with the American Medical Association, should insist, by the adoption of a standing rule, resolution or otherwise, that its officers, during their term of office, refrain from public discussion of broad policies of public welfare, except such as have been officially adopted by their organizations, in order to protect the membership from being committed without an opportunity for expression of opinion. Even if such speakers definitely explain that they speak for themselves alone, they cannot dissociate themselves from their public offices.

The various councils, bureaus and publications of the American Medical Association have been established by the House of Delegates or their creation has been approved by the House. Their progress as reported to you by your Board of Trustees is most gratifying. Their work has increased tremendously year by year and the demands made on them at all times tax their resources. I want merely to mention some of their difficulties—difficulties which it seems to me are quite unnecessary and which tend to defeat their purpose.

Seldom is there a period in organizations so strikingly influential for the future of a profession, and of the public, as was that of 1900 to 1906 in the American Medical Association. The fruits of medical contributions were being jeopardized by the multiple evils which became apparent in the proprietary medical school, in the exploitation of physicians by commercialized directories and in the commercial domination of our therapeutics. History has repeatedly shown that in times of crises leadership arises. So it was under the able leadership of Dr. George H. Simmons, supplemented by the loyal support of progressive physicians, that the period 1900 to 1906 was one of exceedingly constructive efforts, the magnitude of which grows more in the increased perspective of the last thirty years.

The proprietary evil has always been with medicine in one form or another. In America the development of all sorts of so-called ethical preparations began about 1875 and grew to serious proportions at the first part of this century. From time to time the medical profession became articulate against the debasedness of the proprietary medicine evil. The profession was also aware that it had no means of determining those new drugs in which it should have confidence from those which were bad, and in both cases the advertising for them generally teemed with claims preposterous even then. The growing concept of the sad state of materia medica was augmented by a resolution in 1904 from the delegates of the Michigan State Medical Society asking that the Board of Trustees be requested to provide a means whereby analyses of medicinal substances could be made and reports obtained concerning the composition and properties of these substances.

The Council on Pharmacy and Chemistry (the name given the body composed of well known pharmacologists, pharmacists, chemists, clinicians and bacteriologists) was organized Feb. 11, 1905, primarily for the purpose of disseminating information which would protect physicians and the public against fraud, imposition, undesirable secrecy and unwarranted therapeutic claims. The Council has carried on its work for thirty-four years. No one unfamiliar with the work of this Council can appreciate the sacrifices demanded of its members and the indebtedness of this association to them.

Thirty years ago there were no medical journals whose advertising pages could be considered a credit to the medical profession. Today not only the greatest medical journal in the world but the state journals and many independent journals show by their clean advertising the imprint of the Council's efforts in furthering rational therapy and enhancing the scientific treatment of the sick.

In contrast are the pages of certain little magazines sent without subscription charge to all members of the profession —magazines usually referred to as "throw away" journals. Most of the advertising in these journals is not acceptable to the American Medical Association. This of course is the reason for their existence. They have no doubt been extremely profitable to their private owners for they have furnished to these advertisers a large audience which could not be obtained through the American Medical Association journals. One of them has repeatedly attempted to undermine the councils and committees that have attacked nostrums and made therapy scientific. Some publish the names of an "advisory board"—names of leading members of this organization. All publish articles or abstracts written by our members. It is hard to believe that members of this organization will lend their names to the promotion of publications of this type.

A matter of similar interest relates to the journals created by this House to cover the specialties. These are the ranking journals of the world in their special fields. All but three are published at a loss. In competition with them are certain journals published for profit by commercial firms which accept advertising far from meeting the requirements of our Council on Pharmacy and Chemistry. Many of these are excellent journals. Their covers advertise long lists of names of men high in our ranks, while their advertising pages recommend to the reader products these same editorial boards would blush to endorse.

Thirty-five years ago this House created a Council on Medical Education, later to become the Council on Medical Education and Hospitals. As a result of its work there has, during these years, been an unparalleled advance in medical education. No other agency could have accomplished what it has. The activities of this Council have constituted one of the greatest safeguards for the protection of the health of the American people. You will be called on at this meeting to decide important questions on which the future influence of this council will depend. If its work, independence and responsibility are to continue unchanged, we should be able to demand for it the loyal support of every member.

During the past year THE JOURNAL has continued its fearless editorial policy of attack on quackery. These exposés have for years resulted in suits for damages being brought against the Association. We have recently won the suit brought by John R. Brinkley against the editor of *Hygeia*. Many suits never come to trial, but attorneys' fees and preparation for defense entail large sums of expense. We sometimes wonder whether the public is appreciative of this effort and expense in its behalf. Nevertheless we have at all times considered it our duty to expose dishonesty in medicine wherever it is found. Several suits against the Association are pending at this time. We have never compromised and we have never retracted, for we stand firmly on the principles and truths that we enunciate.

It is no secret that these are troublous times. Modern technics for bringing pressure on various groups of our population to obtain favorable action for extraordinary economic and sociologic proposals have resulted in constant harassment of the medical profession. In the midst of these trials come many requests that the Association embark on new projects in the field of research, in the field of publication, in protection of the public against the hazards of unethical practices, in public health education. Many of these suggestions seem highly desirable, and it is the hope of your officers that we may be able to undertake them, at a time not too far away, when stability in economics, in government and in industry shall again prevail.

Finally, may I urge every possible effort to train and educate our members to think of, and refer to, the American Medical Association not in the third person but in the first. Five thirty-five North Dearborn Street is not the American Medical Association. It is a *building,* occupied by more than 600 employees engaged in carrying out the activities and policies this House of Delegates has created. *You* are the American Medical Association. The membership you represent is the American Medical Association. Nothing can come from that building which you have not authorized. A criticism of the American Medical Association, yes, an indictment of the American Medical Association or of any of its officers, is a thrust at you personally and individually.

Unfavorable comment when heard is usually due to ignorance regarding the organization and its activities. I wish every member could visit our headquarters and become familiar with it. Let us urge this on our membership, and, if our state and county societies would delegate certain members to visit it annually, the investment in the expense entailed would yield rich dividends to all concerned.

CONCLUSION

Members of the House of Delegates, throughout my entire professional life I have been associated with the work of the American Medical Association. I recall the giants of American medicine who in the past have arisen in this House of Delegates to defend the ideals and objectives of this great organization. I call to mind Frank Billings leading the

campaign against unethical proprietary medicines; the work of William J. Mayo in advancing the science of surgery; Frank Wynn of Indiana giving impetus to our great scientific exhibit. All of us remember the sagacious leadership of Malcolm LaSalle Harris, the idealism of the distinguished George de Schweinitz, the devotion of Pusey, of Hubert Work, of Richardson and many others. These men, busy in the practice of medicine and with their personal affairs, gave freely of their time and of their lives to advance the progress of organized medicine. They were the builders, in this House of Delegates and in various official bodies, who turned over to us the great institution for which we now carry the responsibility. It is a serious and a sacred trust. The officers whom you have elected, the employees who administer your affairs, look to you for guidance in their work, for support in their activities, and for confidence which will inspire and stimulate them to maintain securely and build more greatly what is already the greatest organization of physicians that the world has ever known. In this House of Delegates there are physicians with knowledge, with astuteness, with abilities equal to those of the great founders and leaders of the past. The times demand the most that you can give. I believe we may depend upon you to rise to the occasion.

During the coming year my resources in time and strength are yours to command. I ask only your full cooperation in all that is best for medicine and for the people of this great country.

Address of the Vice President, Dr. Howard Morrow

The Speaker presented the Vice President, Dr. Howard Morrow, San Francisco, who addressed the House as follows:

Mr. Speaker and Gentlemen:

I am not on the official program, so I will try to give you something impromptu. I was most embarrassed last night when I stood in the hall being photographed with Dr. McCormack of Kentucky. After the photograph was taken the photographer wanted to know from Dr. McCormack who he was. It took Dr. McCormack five minutes to tell him he was President of the Southern Medical Association, the head of the Department of Health of Kentucky, the head of everything in Kentucky. Then he turned to me and said "Who are you?"

I said "My name is Morrow, H. Morrow." "But," he said, "who are you?"

I said, "Nothing, nobody, just a small fry from the Coast."

By that time Morris Fishbein came along and he said "He is supposed to know something about leprosy."

I said "My God! If they put that in the newspaper I'll lose what little practice I have."

Address of Dr. C. E. Hercus

On request of the Chairman, the Secretary presented Dr. C. E. Hercus, Dunedin, New Zealand, who addressed the House as follows:

Mr. Speaker, Dr. West and Members of the House of Delegates:

I thank you very much indeed for the cordial way in which you have welcomed me, a visitor from the most southern of the British dominions. It is a very great privilege indeed to be invited to attend this great meeting of this great Association, and it is a very great privilege and pleasure for me as a representative of the New Zealand and British Medical associations to bring to you their tribute and to thank you for the flow of publications that come from your offices, which have been of greatest value in our British medicine in New Zealand. The many journals which you have sent and which have been referred to this morning have been a source of great inspiration and help to us in the South and we thank you for it. We also wish to pay a tribute, and I as their representative do so now, to this great country and to this great profession for the traditions established and maintained by you which were referred to in that eloquent speech of the Speaker. We in the southern dominions, I think, stand for those same traditions and ideals for which you stand, and we do look to you increasingly for leadership and inspiration.

I thank you very much for your welcome.

Address of Dr. T. C. Routley

The Secretary then presented Dr. T. C. Routley, the secretary of the Canadian Medical Association, who addressed the House as follows:

Mr. Speaker, Mr. President, Mr. President-Elect, Dr. West, Gentlemen:

There is a law up in our country which says that if one has undisputed and undisturbed right of way for a period of twenty-one years, that right of way becomes permanent and irrevocable. Sixteen years ago at your meeting in San Francisco, by the cordiality of your welcome and the affectionate way you treated me during my stay with you, I commenced my right of way into the hearts of the House of Delegates of the American Medical Association. Now, Mr. Speaker, it is my hope that five years from now I shall be able to claim an undisputed and undisturbed right of way in perpetuity.

I, sir, look forward always with the greatest of pleasure to coming to your annual meeting, and I do bring you on this occasion, as I have done on previous occasions, the most affectionate greetings from your brother practitioners north of the 49th parallel of latitude. As I have told you before, we are a very small body numerically but our problems are the same as yours and we do regard you as our big cousin over here, giving us the lead in many directions.

Sir, while on my feet I should like, if I may, to pay tribute to your Secretary, Dr. Olin West, and to his associates who have been so kind to the Canadian Medical Association whenever we have called on them for counsel and advice. Indeed, I couldn't begin to tell you just what it has meant to us from year to year to know that wherever and whenever we needed some assistance Dr. West was always so courteous and so prompt in giving us that assistance.

So I bring you again the greetings of the Canadian Medical Association and I thank you, sir, and this House of Delegates for your kindly reception.

REPORTS OF OFFICERS

Report of the Secretary

Dr. Olin West presented his report as Secretary, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary. Dr. West then announced that since his report had been put into print the membership had increased to 113,113 and the Fellowships to 70,100.

The Secretary then read a telegram of greeting from Dr. Rudolph Matas, New Orleans, recipient of the Distinguished Service Medal in 1938, and announced the receipt of communications from organizations, officials and mercantile establishments in St. Louis, sending greetings to the American Medical Association.

Report of Board of Trustees

Dr. Arthur W. Booth, Chairman, presented the report of the Board of Trustees.

Supplementary Report on Medical Patents

Dr. Roger I. Lee, a member of the Board of Trustees, then presented the following supplementary report of the Board dealing with medical patents:

From time to time the House of Delegates has reaffirmed its position in regard to the undesirability of doctors taking out medical patents. The Judicial Council has given the subject repeated and prolonged consideration and decided not to recommend any changes in the present procedure. The House of Delegates, in a recent meeting, referred the matter of medical patents to the Board of Trustees for report. In consequence of this action, the Board of Trustees appointed a committee to secure further information.

Finally, on March 16, 1939, a conference at the headquarters of the American Medical Association was called, to which all interested parties were invited. At this conference varying points of view were presented by representatives of the Scarlet Fever Committee, Inc., the Insulin Committee of the University of Toronto, of the manufacturers, of the public, and of the Council on Pharmacy and Chemistry. The publication of the

proceedings of this conference has been unavoidably delayed but will appear in THE JOURNAL in a few weeks.

The views presented varied widely. One was that at one end was the view that patents should not be secured in the medical field or that they should be frankly dedicated to the public; another expressed the desirability of securing medical patents and of energetically controlling these patents for the protection of the public.

There were some points of agreement. One was that the attitude of the manufacturers was clearly defined and fair. Again, it seemed clear that if a patent is controlled it will result in much litigation. Moreover, it seemed evident that few medical individuals personally benefited financially from patents. However, it appeared that in some instances there had developed a real competition between the manufacturers, the commissions and the committees directly or indirectly under the control of universities. In some of these instances money in varying amounts accrues to the universities for purposes of research. Furthermore, there was evidence brought out in the conference, as had been brought out in resolutions before the House of Delegates, that there was a real danger of a severe control of a medical patent interfering with medical research.

SUPPLEMENTARY REPORT ON ARMY MEDICAL LIBRARY

Dr. Booth presented the following Supplementary Report of the Board of Trustees pertaining to the Army Medical Library:

The act passed by the Seventy-Fifth Congress authorizing the construction of a new building in which to house the Army Medical Library and Museum, approved by the President June 15, 1938, carried no appropriation for the construction of the building. That session of Congress adjourned without otherwise making available the necessary money. The Seventy-Sixth Congress convened Jan. 3, 1939. Copies of the resolutions adopted by the House of Delegates at the San Francisco session, petitioning the Congress to make available the necessary fund to construct the building as soon as practicable, were promptly forwarded to the President of the United States, the Vice President, the Speaker of the House of Representatives, the Secretary of War, the Chief of Staff of the Army, and the chairmen of the House and Senate Committees on Military Affairs and on Appropriations. The War Department appropriation bill, however, in which the appropriation for the library building would normally be placed, has already passed the House and the Senate but contains no such appropriation, nor is the appropriation proposed in any other pending bill. Our state associations have been urged to petition the Congress for prompt action with respect to this appropriation and to appoint committees to keep constantly in touch with the matter.

The Board suggests that the House of Delegates reemphasize its hope that the necessary fund to construct this building be made available by the Congress without delay as the need is urgent.

SUPPLEMENTARY REPORT ON FEE SCHEDULES

Dr. Booth presented the following supplementary report of the Board dealing with fee schedules:

In response to the request of the House for a report on fee schedules, the Bureau of Medical Economics has given careful consideration to the matter. It is still studying it and simply wants to report progress at this time.

SUPPLEMENTARY REPORT ON WAGNER NATIONAL HEALTH BILL

The Wagner National Health Bill is an important measure. It has received consideration by the Board and that body feels that it should be considered by the House of Delegates. It is suggested that the Speaker appoint a special reference committee to which this bill and any matters that may be presented bearing on it may be referred for consideration.

Dr. Frederic E. Sondern, New York, moved that the suggestion of the Board be adopted and that the Speaker be requested to appoint a special reference committee to consider this bill, the committee to report to the House during the executive session on Tuesday. The motion was seconded by several delegates and carried.

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried, the Speaker was authorized to appoint a reference committee on executive session.

The Speaker then announced the following personnel of these two reference committees:

CONSIDERATION OF THE WAGNER NATIONAL HEALTH BILL

Walter F. Donaldson, Chairman ..... Pennsylvania
Frederic E. Sondern ..... New York
Walter E. Vest ..... West Virginia
Fred Rankin ..... Section on Surgery, General and Abdominal
E. H. Cary ..... Texas
Henry A. Luce ..... Michigan
Howard L. Snyder ..... Kansas

EXECUTIVE SESSION

Charles J. Whalen, Chairman ..... Illinois
Herbert L. Bryans ..... Florida
H. G. Hamer ..... Indiana
John M. Birnie ..... Massachusetts
Peter Irving ..... New York
Clyde L. Commer ..... Section on Dermatology and Syphilology
McLain Rogers ..... Oklahoma

The report of the Board of Trustees and its supplementary reports were then referred to the Reference Committee on Reports of Board of Trustees and Secretary, with the exception of the Supplementary Report on Medical Patents, which was referred to the Reference Committee on Legislation and Public Relations and the Supplementary Report on the Wagner National Health Bill, which was referred to the Reference Committee on Consideration of the Wagner National Health Bill.

Supplementary Report of Board of Trustees

REPORT OF COMMITTEE TO STUDY PROBLEMS OF MOTOR VEHICLE ACCIDENTS

The Secretary presented the following report of the Committee to Study Problems of Motor Vehicle Accidents, which was referred to the Reference Committee on Legislation and Public Relations:

The Committee to Study Problems of Motor Vehicle Accidents met at the headquarters of the American Medical Association on Dec. 8, 1938. Those attending were Dr. Herman A. Heise, Milwaukee, Chairman; Drs. Burt R. Shurly, Detroit, and C. W. Roberts, Atlanta, Ga., members of the committee; Mr. J. S. Baker of the National Safety Council, and Dr. Olin West, Secretary of the American Medical Association.[1]

The members of the committee are aware of the marked reduction in motor vehicle accidents and fatalities since the peak year of 1937 and are convinced that the improvement is due chiefly to education and traffic law enforcement. The medical profession realizes its responsibility and believes that further improvement can be obtained if the following facts are comprehended and the recommendations set forth here are adopted.

PHYSICAL AND MENTAL DEFECTS

Physical and mental defects, as they affect motor vehicle accidents, can be classified roughly into three general groups according to the duration of the disability:

1. Permanent deficiencies, such as missing extremities, certain visual and hearing defects, feeblemindedness, and small stature.
2. Transitory deficiencies which may impair ability for a number of days or months, such as weakness during or after illness, arthritis, various diseases which may cause coma or seizures, and mental troubles which may result in unstable emotional states.
3. Brief and often self-inflicted disabilities from which recovery is usually natural, certain, complete and prompt, such as intoxication, the effect of drugs, lack of sleep, unusual excitement or worry.

Official agencies for dealing with physical and mental defects as they relate to driving ability include drivers' license administrators and city and state police departments. The drivers' license administrators watch for the more obvious permanent physical defects when they examine new drivers for licenses. They also conduct hearings and reexamine those drivers who

1. The Chairman was assisted in the preparation of this report by the secretaries and other members of the National Safety Council's Committee on the Driver and Committee on Tests for Intoxication. The statements and recommendations set forth here are substantially concurred in by these two committees of the National Safety Council.

have had more than their share of traffic accidents or traffic violations, to determine whether the licenses should be suspended or revoked. The police officials deal primarily with the drivers who get into trouble because of temporary disabilities such as intoxication.

There are many problems in determining minimal physical and mental standards for new drivers. Higher qualifications may be set for the employment of commercial drivers than for the licensing of the general public, because the former involves a process of selecting the few best from many, and any questionable applicant may be rejected, whereas, in licensing the public, only the *certainly unfit* may be rejected and all questionable applicants must be given the benefit of the doubt and accepted.

Loss or paralysis of limbs is not as dangerous as it might be, because the automobile may be especially equipped for drivers so afflicted and because such drivers usually compensate by extra care. The problem in dealing with sensory defects is one of establishing the point in deficiency at which the hazards become great enough to bar the person from driving; much research is yet needed to determine standards for sensory defects. The dangers of low intelligence are not generally realized, and as yet little has been done either to set standards of intelligence for drivers or to relate mental development to possible hazards.

Certain mental and physical defects are evident even in childhood. If it were possible for the schools to keep simple records which would follow the progress of a child through school, information could be gathered which would be very valuable when this individual applies for a driver's license. Such a record should include notations as to serious eye and ear defects, epileptic seizures, and so on. Also records of unstable individuals of low intelligence (I. Q. less than 70 per cent) would be of value. More careful examination of persons with bad school records would aid materially in keeping the potential accident-prone person off the highways.

Suspension and Revocation of Driving Privilege.—It is a well known fact that a small percentage of drivers are involved in more than their share of traffic accidents and have more than their share of traffic violations. It is of the utmost importance that adequate records of traffic accidents and major traffic violations be kept so that these persons can be identified and reexamined to determine whether they should continue to have the privilege to drive. Such records should preferably be kept by a state department and should be readily available to similar departments in other states. Persons having had more than their share of accidents or violations should be given special examinations, and hearings should be conducted to determine whether their licenses should be suspended or revoked.

Transitory Deficiencies.—These deficiencies ordinarily cannot be brought to light by original examination for licenses because they may develop at any subsequent time. Most of them would even escape detection in any practical periodic reexamination. However, most such conditions call for medical attention and thus come to the notice of physicians.

Probably the greatest contribution to traffic safety that the medical profession as a whole can make is in preventing accidents due to transitory disabilities. It should be the duty of physicians to inform patients of the possibility of prescribed drugs causing driving hazards. This applies particularly to insulin, opium derivatives and other sedatives. The use of anesthetics for minor operations may also leave the patient in the condition in which he is less able to cope with traffic. Too many drivers, during investigations of accidents in which they were involved, attribute the mishaps to dizziness, faintness, sickness or weakness "because of something the doctor gave me," or because of a condition for which they were under treatment.

ALCOHOLIC INTOXICATION

The importance of alcohol as a factor in traffic accidents has been demonstrated further by the work of Holcomb[2] in Evanston, Ill. Alcohol tests were made of the breath of 1,750 drivers chosen at random on the streets of Evanston, a legally dry community, and results were compared with the results of alcohol tests made on the urines of 270 drivers brought to Evanston hospitals after being involved in personal injury accidents. If alcohol were not a factor in accidents, it is obvious that the percentage of drivers in each of these two groups who had been drinking would be about the same. However, it was found that 47 per cent of those involved in personal injury accidents had alcohol in their blood, while only 12 per cent of the drivers selected at random were in the drinking class. The results are even more significant when a comparison is made of the percentages of drivers in each class whose blood contained 0.15 per cent of alcohol or more. Assuming that the chance of having an accident when no alcohol has been consumed is represented by the number one, then the chance of having an accident has been shown to be fifty-five times greater when the average person has a concentration of alcohol in his blood of 0.15 per cent or more. (Approximation by Committee on Tests for Intoxication, National Safety Council, in its 1938 Report.)

Holcomb's survey confirms previous observations that alcoholic intoxication contributes materially to the peak of accidents, which occurs on Saturdays and Sundays. His study also confirms the belief of many that alcoholic intoxication, rather than darkness, is the major cause of the high proportion of personal injury accidents in the hours after midnight.

The concentration of alcohol in the blood is one of the best criteria of intoxication because blood alcohol concentrations closely parallel detrimental effects noted in carefully conducted experimental tests. Although this relationship is not mathematically exact because of slight variations resulting from inherent differences in human beings, it is sufficiently accurate for practical purposes. The relationships between concentrations of alcohol in blood, urine, saliva and breath have been shown to be sufficiently definite so that chemical tests of any of these body materials can furnish a reliable measure of the degree of alcoholic influence.

For medicolegal purposes, the committee recommends the following interpretation of chemical tests for alcohol:

1. Although there is no minimal figure which can be set at which there will be absolutely no effect from alcohol, the committee recommends that persons with a concentration of alcohol of less than 0.05 per cent by weight in blood or its equivalent in urine, saliva or breath should not be prosecuted for driving while under the influence of alcoholic liquor.
2. All persons show a definite loss of that clearness of intellect and control of themselves which they would ordinarily possess when the concentrations are above 0.15 per cent in the blood or its equivalent in other body fluids or breath and should therefore be considered as under the influence.
3. When the alcohol concentrations are between 0.05 and 0.15 per cent in the blood, a great many of the persons will be under the influence of alcohol, but the committee recommends prosecution only when the circumstances and results of physical examination give definite confirmation of such influence.

Chemical tests for intoxication are compulsory in Sweden and Germany after traffic accidents. These tests are used also in a number of other European countries. Results of chemical tests have been used as evidence in court in at least fourteen states in this country. Indiana is the first state to adopt a law which defines borderline limits for alcoholic influence in terms of amount of alcohol in the defendant's blood. The limits set forth in this law conform essentially with those recommended in this report.

Results of chemical tests of specimens which are obtained without compulsion and properly identified are almost always admitted as evidence in courts in this country. Chemical tests are usually employed to corroborate evidence obtained from observation of the accused. In cases involving injury from an accident, the evidence from chemical tests eliminates guesswork, even though the suspect is unconscious or displays symptoms which may be the result of injuries sustained in the accident.

The tests exonerate the innocent as well as assist in convicting the guilty. Cities using chemical tests obtain a much higher proportion of guilty pleas and a much higher percentage of convictions of cases which go to trial. Use of chemical tests enable the prosecution to refute the usual "two bottles of beer" defense.

When the defendant pleads guilty, it is not necessary to have an expert testify on the relationship between concentrations of alcohol in body materials and the probable degree of alcoholic

2. Holcomb, R. L.: Alcohol in Relation to Traffic Accidents, J. A. M. A. **111**: 1076 (Sept. 17) 1938.

influence. However, this expert testimony is necessary in all court cases in which the admissibility of chemical test evidence is questioned by the defense attorney. Physicians are often called on to give expert testimony on the meaning of the test results. Before attempting to present such expert testimony, physicians should become familiar with the literature on the subject and should preferably have some experimental background on the relationship between physical impairment and test results.

In some states, courts will refuse to admit testimony of physicians who have treated an injured person at the time a physical examination is made or a specimen is obtained for chemical tests, holding that the treatment creates a physician-patient privilege. When there is a possibility of such a privileged relationship developing, the specimens for chemical tests should be taken by other persons.

The medical profession is particularly fortunate in having these chemical tests at its disposal. They will enable the profession to avoid the well known "disagreements of experts." Their use is recommended whenever physicians are called on to diagnose degree of alcoholic influence for city and state enforcement departments.

Respectfully submitted.

HERMAN A. HEISE, Chairman.
BURT R. SHURLY.
THOMAS A. MCGOLDRICK.
C. W. ROBERTS.

Report of the Judicial Council

Dr. George Edward Follansbee, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Reports of Officers.

Report of the Council on Medical Education and Hospitals

Dr. W. D. Cutter, Secretary of the Council, presented the report of the Council on Medical Education and Hospitals as printed in the Handbook, together with the following supplementary report, which was referred to the Reference Committee on Medical Education:

SUPPLEMENTARY REPORT

First, the report on the survey of medical and hospital care in the state of Mississippi, referred to in paragraph 6 of the Council's report to the House of Delegates (page 176 of the Handbook), was not completed in time for distribution to the members of the House of Delegates. It will be printed in THE JOURNAL for June 3. A brief abstract of this report is presented to the House of Delegates.

Second, since the publication of the Essentials of a Registered Hospital, page 178 of the Handbook, those sections dealing with the physical plant, medical staff organization, pathology and laboratory diagnosis, anesthesia, and dietetics have been amplified. These revisions are submitted to the House of Delegates as a part of this supplementary report.

Third, The Essentials of an Approved Examining Board in Specialties, page 202 of the Handbook, were further revised at a meeting of the Council on May 14. Section III, paragraph A, subheading 3, was amended to read "Membership in the American Medical Association is recommended."

Fourth, The Council has found it desirable to confer with the examining boards in several of the specialties and some of the special societies, such as the American College of Physicians and the American Psychiatric Association, concerning problems of graduate medical education relating to the training of specialists, and requests the permission of the House of Delegates to explore the possibility of cooperative relationships with such organizations.

RAY LYMAN WILBUR, Chairman.
J. H. MUSSER.
FRED MOORE.
REGINALD FITZ.
FRED W. RANKIN.
CHARLES GORDON HEYD.
FRANK H. LAHEY.
WILLIAM D. CUTTER, Secretary.

SURVEY OF HOSPITALS AND MEDICAL CARE IN MISSISSIPPI

The state of Mississippi was selected by the Council on Medical Education and Hospitals for a complete study of hospitalization and facilities for medical care. The procedure involved personal visits of inspection by members of the Council's staff to all the hospitals, registered and unregistered. The state health department and a number of county health departments lent their cooperation in supplying data for the survey. The number of hospitals, related institutions and unclassified facilities inspected for the survey totaled 117.

1. In appraising medical service in this state, one must take into account the fact that more than 50 per cent of the population in Mississippi are Negroes and that the demand for medical service among this group may fall below the requirements of the white population.

2. While the population is approximately equally divided, the number of general hospital beds for Negroes is 0.7 per thousand as compared with 2.4 per thousand of the whites. Although the proprietary hospitals are most numerous as a group, they control only 12.1 per cent of the beds. All available information clearly points to the fact that additional general hospital beds are not needed for the white population in Mississippi, the percentage of unoccupied beds being 46.8 per cent. Distance and transportation offer no serious difficulties. Four small areas in the state are more than 30 miles from a hospital, but these districts are well served by the hospitals in urban centers. Approximately 25 per cent of the patients admitted to all general hospitals came from a distance of 30 miles or more. It is not uncommon for patients to travel upward of 70 miles to the hospital of their choice.

3. The tuberculosis program is in need of more adequate financial support in order to utilize the present facilities and to increase the number of beds about 100 per cent.

4. The number of beds for nervous and mental patients is apparently adequate for the needs of the state. A field psychiatric clinic program, however, is needed.

5. Mississippi has no hospitals approved for intern or residency training. Several have made application and are now in the process of conforming to the requirements.

6. Obstetric delivery rooms and nurseries are needed in many general hospitals offering this service; thirty-seven have no delivery rooms and forty-three have no nurseries.

7. More qualified radiologists and pathologists are needed in the state. Clinical laboratory facilities do not provide a sufficiently wide scope of service in most hospitals. Investigation indicated that clinical laboratory examinations should be more complete.

8. The development of nursing education in Mississippi has not kept pace with the advances in other parts of the country and this may be partially ascribed to economic conditions. The number of graduate nurses employed in general hospitals does not compare favorably with accepted standards of hospital service.

9. It appears that the distribution of physicians in Mississippi has followed the general trend away from rural areas, but this does not necessarily mean a lack of sufficient medical service. Other factors tend to enlarge the territory which a doctor can serve, such as better communications, better methods of transportation, improved roads, and hospital facilities.

10. Extensive inquiry among all classes of the population, including doctors, workers, health officers and nurses elicited the almost uniform response that there is practically no person in Mississippi who cannot secure the services of a physician regardless of ability or inability to pay.

NOTE.—A complete report of the Mississippi survey will be published in THE JOURNAL for June 3 and reprints will be available later.

ESSENTIALS OF A REGISTERED HOSPITAL

General Statement.—Hospitals should be organized and conducted primarily for the purpose of providing facilities where the sick and the injured of the community may be given scientific and ethical medical care.

Registration is a basic distinction between all recognized hospitals and those that are refused recognition. It is a prerequisite to the consideration of a hospital for approval for interns or for residencies in specialties.

The registration of hospitals, the approval of hospitals for interns, approval for residencies in specialties, and all other service of the Association regarding hospitals is carried on by the Council on Medical Education and Hospitals. Separate essentials have been adopted for each of these types of approval.

It is the desire of the Council to cooperate in every way for the improvement of hospital service, whereby the sick and injured may be provided with scientific and ethical medical care.

The Council does not have nor does it assume legal authority over any hospital. It recognizes clearly that the officers in charge of such institutions have the unquestioned right to conduct the hospitals in any way they may deem wise. If a hospital desires to have its name appear on the American Medical Association Hospital Register and thus have the endorsement of that Association, it should be willing to comply with the principles which the Council on Medical Education and Hospitals considers necessary.

I. *Organization.*—1. The organization should consist of a supreme governing body qualified to administer a hospital. This may be a board of trustees or directors, a partnership or an individual. Such a board, partnership or individual must assume final authority and responsibility for the administration.

2. There must be a well qualified executive officer who may be designated as administrator, superintendent or director or by some other title. This person should be responsible to the governing body for carrying out its policies. The executive officer should be assisted by competent personnel adequate to the needs of the institution.

II. *Physical Plant.*—1. The hospital plant should consist of modern, safe buildings maintained in a sanitary condition, provided with fire protection and adequately equipped and furnished for the comfort of patients. Equipment for diagnosis and treatment should be reasonably complete for all types of work the staff purports to carry on in the hospital.

2. Institutions accepting surgical and obstetric patients should provide a modernly equipped operating room, a delivery room and a nursery. Hospitals that are strictly limited in the service they offer are not expected to have the complete organization and equipment of a general hospital.

III. *Medical Staff.*—1. Since the medical staff is the most important factor in the delivery of medical service to patients, too great care cannot be exercised in the selection of staff members. The staff should be limited to physicians holding the degree of doctor of medicine from medical colleges acceptable to the Council on Medical Education and Hospitals, having satisfactory qualifications as to training, licensure and ethical standing, and to dentists who are graduates of recognized dental colleges and whose professional ability and standing are known to the medical staff.

2. Osteopaths, chiropractors and other cult practitioners outside the scope of regular medicine, or unethical physicians, may not be permitted to use the hospital's facilities. They may not enter data on the records, carry out diagnostic procedures or treatments, or in any way assist in doing this work.

3. The form of organization of the staff is determined by the size and the activity of the hospital in accordance with its needs.

4. In very small hospitals where there are few physicians and where an elaborate organization is not practicable, there should still be some authority competent to pass upon the qualifications of those who seek to use the hospital's facilities. Particular care should be exercised in the assignment of surgical privileges since it is essential for the safety of patients that both the surgeon and his assistants be properly qualified.

5. Where further organization is needed it should consist of such officers as president, secretary and others; and committees, such as executive, medical records and credentials, elected or appointed according to the constitution and by-laws.

6. Staff departments such as medicine, obstetrics and surgery, should be organized as may seem wise.

7. Regular staff meetings should be held monthly. The agenda should include:

(*a*) *Business*
Reading of minutes, unfinished and new business; reports of committees, and so on.

(*b*) *Medical*
Report of the medical records department; analysis of the work of the hospital; discussion of deaths, infections, complications and consultations.
Reports of standing and of special medical committees.
Discussion and recommendations for improvement of the professional work of the hospital.

Postmortem examinations that have been performed should be presented together with the clinical aspects. Pathologic specimens removed surgically or at postmortem may be demonstrated and discussed.

8. Minutes of all staff meetings and attendance records shall be kept by the secretary.

IV. *Pathology and Laboratory Diagnosis.*—1. The laboratory facilities should provide as complete a service as is practicable.

2. The pathologist should preferably be a physician who holds the certificate of the American Board of Pathology. Where it is not possible to employ the services of a pathologist directly, arrangements should be made for a consulting service for tissues, postmortem examinations and the interpretation of the more difficult tests and examinations in clinical pathology. All surgical tissues should be examined, described and diagnosed by a pathologist.

3. The department should be equipped for all routine procedures and for whatever additional tests and examinations are frequently called for by the staff.

4. At least one well trained clinical laboratory technician should be employed.

5. Reports of all work done in the department should be kept on file.

6. *Autopsies.*—Every effort should be made to secure consent for the performance of autopsies. They should be conducted by a qualified pathologist or under his supervision, and protocols, including clinical summaries, should always be filed.

V. *Radiology.*—1. The responsibility for all radiologic examinations must rest on the physician-roentgenologist who is head of the department. His findings and conclusions for all examinations should be placed in the patient's chart. Nothing in this provision should preclude additional study and interpretations by qualified attending physicians on the staff.

2. The physician-roentgenologist should be preferably one who is a diplomate of the American Board of Radiology or a physician whose qualifications are acceptable to the Council on Medical Education and Hospitals of the American Medical Association.

3. It shall not be the policy of the hospital to make a profit from the department of radiology.

VI. *Anesthesia.*—The anesthesia service should be under the direction of competent medical personnel whenever possible. If a qualified specialist in anesthesiology is not available, supervision may be assigned to some member of the staff who has had special training in this field or to a nurse anesthetist whose qualifications are acceptable.

VII. *Nursing Service.*—1. A competent nursing service should be provided, adequate for complete coverage for both day and night periods, and for surgical and obstetric supervision. All nursing should be supervised by registered graduates. Hospitals that do general surgery should have a trained operating room nurse.

2. *Dietetics.*—The services of one or more graduate dietitians, as may be required, should be available for supervision of regular and special food services. Where graduates cannot be employed, these functions should be assumed by some competent person.

VIII. *Pharmacy.*—The handling of drugs should be properly supervised and should comply with all the legal regulations. Accurate records should be maintained. A qualified person should be placed in charge, preferably a graduate pharmacist; whatever arrangement is made, all prescriptions should be filled by a graduate pharmacist.

IX. *Medical Records.*—1. An adequate record system should be maintained in all departments. No certain forms are recommended since requirements vary greatly according to the size and type of hospital. Samples of suitable forms for all departments may be readily obtained from publishers of hospital records.

2. Case histories and physical examinations should be recorded immediately following the patient's admission. In no case should it be longer than twenty-four hours after admission. The history, physical examination, routine laboratory work and provisional diagnosis should be recorded before an operation except in emergencies. The attending physician is directly responsible for the accuracy and completeness of case records, whether prepared by him or by another.

3. The usual case record consists of identification data, chief complaint, past medical history, family history, history of present illness, physical examination, provisional diagnosis; special reports such as consultations, clinical laboratory, pathology, x-ray and the like; medical or surgical treatment, progress notes, final diagnosis, condition on discharge and follow-up records; autopsy report when available.

4. No case record should be filed until it is complete and then only after it has been reviewed and signed by the attending physician.

5. Monthly and annual analyses of hospital service should be made in order that the staff may be in a position to improve its service.

X. *Ethics.*—In order that a hospital may be eligible for registration it will, of course, be expected that the staff and management conform to the principles of medical ethics of the American Medical Association with regard to advertising, commissions, division of fees, secret remedies, extravagant claims, overcommercialization and in all other respects.

Report of the Council on Scientific Assembly

Dr. James E. Paullin, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

Dr. Paullin added that the members of the Council record with deepest regret and sorrow the loss by death of one of their members, Dr. J. C. Flippin, Charlottesville, Va.

Presentation of New Members

The Speaker read the names of members of the House who had never served in the House previously and requested each one to stand to be recognized when his name was called.

NEW BUSINESS

Resolution on Granting a Seat in the House of Delegates to a Woman Delegate

Dr. Floyd S. Winslow, New York, in behalf of the Medical Society of the State of New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, It is a critical time in the history of American medicine, when it is important that all physicians should unite in safeguarding the interests of the profession; and

WHEREAS, The American Medical Association especially needs at this time the active interest and loyal support of all its members; and

WHEREAS, There are about 8,000 to 9,000 women physicians in the United States, many of them eligible for membership in the American Medical Association and many of them already members thereof; and

WHEREAS, These women physicians have in many states organized city and state associations; and

WHEREAS, There is also a national organization known as the American Medical Women's Association, the members of which have found it difficult to build a powerful organization because of the relatively few women and lack of large funds; and

WHEREAS, It is undesirable to segregate the women physicians' interests from the interests of the profession as a whole; and

WHEREAS, The ratio of women physicians to men physicians is so small that the chance of representation in the house of delegates of the various state medical societies is almost nil; and

WHEREAS, We believe that the women's medical organizations have much to give in big visioned ideas, vigorous work and loyalty if their wishes can only be made articulate; therefore be it

Resolved, That the House of Delegates of the American Medical Association grant a seat to a woman delegate.

Resolution on Testing of School Children for Early Detection of Defective Vision and Hearing

Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, presented the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

WHEREAS, Thousands of children with defective vision and hearing in the schools of our country are endeavoring to obtain an education; and

WHEREAS, The importance of the early diagnosis and correction of these defects is necessary to better education; be it

Resolved, That the American Medical Association give support and encouragement to the various state medical societies and other agencies and foundations in carrying on a nation-wide testing of school children for the early detection of these handicaps.

Resolution Urging that Membership in the American Medical Association Be Not Denied Solely on Basis of Race, Color or Creed

Dr. James M. Flynn, New York, in behalf of the Medical Society of the State of New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, A rapidly changing social order is demanding a reorientation of the attitudes and responsibilities of the individuals and agencies engaged in providing for the medical care of the public;

WHEREAS, The entire strength of all elements engaged in the practice of medicine should present a united front in facing and solving these problems in the interest of the public health;

WHEREAS, The Negro physicians numbering more than 5,000 in the United States and about 350 in New York State bear the direct responsibility for the care of approximately 13 million citizens whose collective health problems form one of the most challenging areas in the entire battleline against sickness and disease;

WHEREAS, These physicians have not only demonstrated individually and collectively their ethical and professional fitness to shoulder their just responsibilities but have shown a zeal and a devotion to the health problems of their people worthy of the best traditions of American medicine;

WHEREAS, The best interests of the entire medical profession and, indeed, of the entire public demand that they receive identical opportunity for medical education, for professional experience in hospital and clinic and for participation in public health programs, public and private—in short, all of the rights, privileges and responsibilities inherent in regular membership in organized medicine;

WHEREAS, The county medical society is the basic unit of the American Medical Association, membership in which is a prerequisite for membership in the American Medical Association;

WHEREAS, South of the Mason and Dixon line, Negro physicians are generally and systematically excluded from membership in county medical societies, making membership in the American Medical Association and affiliation with organized medicine impossible;

WHEREAS, This exclusion along racial lines strikes at the fundamental rights of this large group of physicians and indirectly lowers the quality of medical care which they must deliver to an already underprivileged group whose health problems admittedly press more firmly for solution than those of any other racial group;

WHEREAS, These Negro physicians have time and again demonstrated their constancy and heroic devotion to the democratic form of government and all that that term implies and have strongly recorded their position toward the pending medico-economic issues as identical with that of organized medicine; and

WHEREAS, The Medical Society of the State of New York has, through its House of Delegates, recorded as its considered opinion that any and all restrictions imposed on any American citizen solely on the basis of race or religion is not only inimical to the cause of the public health with which we are so deeply concerned but dangerous to the entire body politic of our democratic form of government; and

WHEREAS, The Medical Society of the State of New York, in keeping with this opinion, has urged its members, especially those in positions of key responsibility in education, and in charitable and public health enterprises, such as medical schools, hospitals and clinics, to consider seriously the removal of any restrictions not only as a matter of simple justice but in the light of their inherent capacity to hamper and restrict the entire medical profession in rendering the best possible service to the public and use their good offices and influence in removing any restrictions based solely on race or religion, to the end that our proud boast of a truly democratic form of government, a truly liberal and unselfish medical profession, be less honored in the breach than in the observance; therefore be it

Resolved, That the House of Delegates of the American Medical Association declare its belief that membership in the various component county societies of the American Medical Association should not be denied to any person solely on the basis of race, color or creed.

Resolution Limiting Directorship of Approved Clinical Laboratory to Licensed Physician

Dr. Frederic E. Sondern, New York, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, Years ago the examinations made by clinical laboratories were largely factual in nature and, as a consequence, a portion of the work was done by chemists and technicians not having medical degrees or being licensed to practice medicine;

WHEREAS, Particularly in the last one or two decades, the developments in laboratory medicine have been such as to require clinical medical knowledge for the safe performance of many of the newer diagnostic procedures undertaken; and

WHEREAS, Specimens are obtained by surgical means from the spinal canal, veins and organs of the body, and drugs and dyes are injected for the purpose of various functional tests, all definitely requiring clinical medical experience and judgment for their performance and interpretation if the safety of the patient is to be guarded; therefore be it

Resolved, That only a licensed physician duly qualified as a clinical pathologist may serve as the director of an approved clinical laboratory, as such practice is a specialty of medicine.

Resolutions on Exhibition of Medical or Surgical Procedure to Lay Groups

Dr. Charles B. Reed, Illinois, presented the following resolutions, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws and to the Judicial Council as a reference committee:

WHEREAS, In the Principles of Medical Ethics Chapter III, Article I, Sec. 4, it is stated that the "Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional," and, further, that it is unprofessional to solicit patients "by indirect advertisement" or "to employ any methods to gain the attention of the public for the purpose of obtaining patients"; and

WHEREAS, The exhibitors of films portraying the physical process of childbirth and other surgical measures to lay groups by individuals, hospitals and commercial concerns are constantly increasing in numbers and in extent of distribution; and

WHEREAS, These pictures, while officially exploited as educational in character, are in reality utilized for the advertisement of individuals, hospitals and commercial products; therefore be it

Resolved, That the exhibition of any medical or surgical procedure to lay groups shall first be approved for that purpose by exhibition of the film to the county or state society where the proposed exhibition is to occur or to a board of censors thereof or to the American Medical Association; and be it further,

Resolved, That exhibitors violating the provisions of this resolution shall be considered unethical.

Resolutions on Wagner National Health Bill

Dr. Fred Moore, Iowa, in behalf of the Iowa State Medical Society, presented the following resolutions, which were referred to the Reference Committee on Consideration of the Wagner Bill:

WHEREAS, The Wagner bill (S. 1620) of the Seventy-Sixth Congress, entitled the National Health Act, in that part pertaining to maternal and child welfare gives the Children's Bureau as a federal administration agency such broad powers (1) in rules and regulations, (2) in setting up undefined advisory councils for participating states, and (3) in determining amount of funds needed after 1942 without limit; and

WHEREAS, The bill makes specific provision for construction of new hospital and treatment centers up to $158,000,000 within three years; and

WHEREAS, The bill does not provide any method or means of determining needs for development of the various services; and

WHEREAS, The bill makes no provision for use of existing unused hospital and treatment facilities; and

WHEREAS, State programs for medical care under this bill are to be subject only to the approval of the Social Security Board; and

WHEREAS, The bill provides that the Social Security Board shall set up state advisory boards whose personnel and responsibility are not defined; and

WHEREAS, The bill makes no specific distinction between medical care for the indigent and that for self-sustaining people, except to stress the need for those in "severe economic distress"; and

WHEREAS, The implications and interpretation of the bill with reference to compulsory health insurance under supervision of governmental units are not clear; therefore be it

Resolved, By the Iowa State Medical Society that S. 1620 will not promote the public interest in economics or health; and be it further

Resolved, That the Committee on Public Policy and Legislation of the Iowa State Medical Society shall request members of Congress from Iowa to obtain modification of the bill in accordance with previously declared policies of the American Medical Association and the Iowa State Medical Society, and, in event of failure in that, to oppose the act; and be it further

Resolved, That the delegates to the American Medical Association present copies of this resolution to that body, with the request that the American Medical Association use its utmost influence to attain these objectives.

Resolution on Medical Care to the Indigent

Dr. Walter B. Martin, Virginia, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The American Medical Association recognizes the importance of extending more adequate medical care to the indigent and to the low income group; and

WHEREAS, Many plans have been proposed and are being urged that have for their purpose the extension of such care; and

WHEREAS, We believe that many of these plans are unsound in their conception and will not result in the provision of a high quality of medical service to the groups they propose to help, and, further, that they are economically dangerous and extravagant and will result in wasteful dissipation of public funds; and

WHEREAS, The present day cost of medical care is principally due to the vast increase in the accessories of medicine resulting from the rapid progress of the science of medicine during the past generation; and

WHEREAS, Among the seriously ill who incur large expenses as a result of illness the hospital cost constitutes over half of the total cost of their illness; therefore be it

Resolved, That we favor the following plan as the first step in extending more and better medical care to the indigent and the medically needy on a sound professional and economic basis:

1. Payment to the hospital by the government, local, state and federal, of the full cost of hospital care of all indigent patients.

2. Subsidy for the full hospital care of the low income group, this subsidy to be applied through local hospital service associations now existing or to be formed, so as to allow the sale of hospital service contracts at a reduced rate to the low income group below a certain fixed income level.

Advantages:

1. Increased bed occupancy on a pay basis and full utilization of existing facilities.

2. Increased income to hospitals enabling them to (*a*) lower the rates to patients who pay their own way, (*b*) improve their service and facilities and (*c*) set up reserves for needed expansion.

3. Make possible in areas where the medical need exists the establishment of new hospitals which heretofore have not been economically feasible.

4. Improve the standards and quality of hospital service. As payment would be made on the basis of hospital cost and as the cost would vary with the quality of service rendered, there would be a constant incentive to improve facilities and service and thus become eligible to enter a higher income bracket.

5. Make possible the improvement of outpatient service for the ambulatory indigent and the establishment of such service where it does not now exist.

6. Average the principal item of cost in severe illness and reduce the premiums that the individuals in the low income group will pay to approximately $3 to $5 a year.

Cost: It is proposed that half of the cost of this plan be borne by the federal government and half by the state and local governments. Allowing a hospitalization rate of one day for each person each year and an average hospital cost of $5 a day, and accepting the figure of 40 million as constituting the indigent and low income group, the total cost would be from 150 to 200 million dollars. The share of the federal government in such a project would be from 75 to 100 million dollars, which is somewhat less than the expenditures proposed for the first year under the Wagner act.

Resolutions on Rearrangement and Rewording of Principles of Medical Ethics

Dr. E. J. Best, California, presented the following resolutions, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws sitting with the Judicial Council:

WHEREAS, In these and other troublous times in order to maintain the high quality and ideals of our medical profession it is most essential to uphold the standards of the Principles of Medical Ethics without compromise; and

WHEREAS, Since the Principles of Medical Ethics were rewritten in 1912 there have arisen many problems not known to the leaders of our profession twenty-seven years ago; and

WHEREAS, Because of the nation-wide influence of members of component societies who have made presentations on public platforms, in the press and over the radio because of the arrangement and wording of the Principles of Medical Ethics, component county medical societies have recently found it next to impossible to draw up sound charges to discipline members who have violated our medical ethics; therefore be it

Resolved, That the Speaker of this House of Delegates appoint a committee of five Fellows of the American Medical Association to study the Principles of Medical Ethics and the form of the code of ethics of the legal profession, having in mind the rearrangement of our Principles of Medical Ethics for continuity, the rewording for clarity, the addition of a commentary following each principle to illustrate the intent and the quoting of relating decisions of the Judicial Council; and be it further

Resolved, That this committee be directed to report its recommendations to the 1940 session of the House of Delegates of the American Medical Association.

Resolutions Expressing Appreciation of Staff at Headquarters

Dr. E. H. Skinner, Section on Radiology, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, The medical profession of America has been confronted with vital issues affecting the welfare of all citizens and the free integrity of medicine and calling for courageous leadership and positive action by the organized profession; and

WHEREAS, This action and leadership has been maintained through a loyal and competent headquarters staff; and

WHEREAS, The Council on Medical Education and Hospitals, the Bureau of Medical Economics and other departments in the headquarters office have helped materially in the efforts of radiologists to maintain and raise the standards of radiologic practice, through which efforts definite progress in the gradual solution of some of our vexing problems has been achieved, thereby protecting medicine against insidious harm to one of its parts; therefore be it

Resolved, That the Section on Radiology expresses its appreciation and commendation of the members of the headquarters staff for their cordial assistance to the Intersociety Committee for Radiology, as representative of all radiologists, and to this section in upholding and applying accepted principles to assure the continued advancement of radiologic practice and the protection of the science against adverse influences; and be it further

Resolved, That a copy of these resolutions be spread on the minutes of this section of the House of Delegates.

Supplementary Report of Board of Trustees

The Secretary, at the request of the Board of Trustees, presented, as representative of a number of communications that have come to the offices of the American Medical Association, the following communication, which was referred to the Reference Committee on Miscellaneous Business:

THE EPISCOPAL DIOCESE OF WESTERN MICHIGAN
DEPARTMENT OF CHRISTIAN SOCIAL RELATIONS
The Reverend H. Ralph Higgins, S.T.D., Chairman
St. Mark's Church, Grand Rapids, Michigan

April 6, 1939

Dr. Olin West, Secretary
American Medical Association
535 North Dearborn Street
Chicago, Illinois
Dear Dr. West:

I am directed by the Department of Christian Social Relations of the Diocese of Western Michigan to notify you of the Department's endorsement of the recent stand of the American Medical Association in reference to proposed programs of federalized medicine.

The resolution of our department states specifically:

1. We approve the general principles outlined for the expansion of public health and maternal and child health services.

2. We favor the expansion of general hospital facilities where the need exists.

3. We recognize the principle that the complete medical care of the indigent is a responsibility of the community and that such care should be organized by local governments and supported by tax funds; that in poorer communities federal funds may be needed to make up for local inability to raise funds.

4. We are completely unwilling to foster any system of compulsory health insurance or a system of tax supported federalized medicine for the whole population.

5. We approve the principle of hospital group insurance on a nonprofit basis. We endorse the principle of compensation for loss of wages due to illness as put forth under Recommendation V by the Interdepartmental Committee.

This department is an official agency of the Episcopal Diocese of Western Michigan and it is composed of some thirty or forty representatives of the parishes and missions of the Diocese.

Faithfully yours,
H. RALPH HIGGINS

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by several delegates and carried, the House recessed at 1:10 p. m., to reconvene Tuesday, May 16, at 9:30 a. m.

Second Meeting—Tuesday Morning, May 16

The House of Delegates was called to order at 9:45 a. m. by the Speaker, Dr. H. H. Shoulders.

Report of Reference Committee on Credentials

Dr. Deering G. Smith, Chairman, reported that 168 delegates had registered and been seated.

Roll Call

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried, the House voted to have the report of the Reference Committee on Credentials constitute the roll call of the House.

Report of Reference Committee on Sections and Section Work

Dr. George Gray Ward, Chairman, presented the following report, which was adopted on motion of Dr. Ward, seconded by Dr. A. T. McCormack, Kentucky, and carried:

Your reference committee commends the new plan by which local physicians are requested to offer a program on Monday. This plan is especially appropriate in view of the tradition which bars local physicians from reading papers in the section program. It does feel, however, that every effort should be made to select subjects of interest to the general practitioners.

Your reference committee endorses the new "panel" or round table programs on Tuesday and believes that they will continue to prove interesting and informative.

The reference committee feels that the emphasis placed on symposiums in section meetings and on joint symposiums presented by two sections on this year's scientific program is worthy of perpetuation.

The committee congratulates the Council on Scientific Assembly on maintaining the high standards of the Association in this year's program.

Respectfully submitted. GEORGE GRAY WARD, Chairman.

Presentation of Minutes

On motion of Dr. A. T. McCormack, Kentucky, seconded by Dr. George W. Kosmak, New York, and carried, the House dispensed with the reading of the minutes.

Report of Reference Committee on Medical Education

Dr. Harvey B. Stone, Chairman, presented a report, which was amended to read as follows:

1. Your Reference Committee recommends the adoption of the Resolution Expressing Appreciation of Staff at Headquarters, presented by Dr. E. H. Skinner, Section on Radiology.

2. Your Reference Committee approves and recommends the adoption of the Report of the Council on Medical Education and Hospitals as printed in the Handbook and as contained in the Supplementary Report with the following notations and exceptions:

In paragraph 13 of the printed report, the Council on Medical Education and Hospitals expresses the opinion that the attention of the constituent state societies of this Association should be called to the great importance of controlling the direction of programs of postgraduate education. Your Reference Committee herewith recommends that the House of Delegates empower the Council on Medical Education and Hospitals to carry out this purpose.

In paragraph 14, the Council on Medical Education and Hospitals recommends that it be authorized to send three representatives to act on the Advisory Council on Medical Education, Licensure and Hospitals. Your Reference Committee disapproves of this suggestion and recommends as a substitute the following:

The Council on Medical Education and Hospitals of the American Medical Association is always willing to cooperate with other organizations in those matters with which the Council is concerned. Accordingly, it will be glad to have problems and recommendations presented to it for consideration, or to meet with other organizations in pursuance of the functions of the Council.

In paragraph 4 of its Supplementary Report, the Council on Medical Education and Hospitals requests permission to explore the possibility of cooperative relations with other organizations concerned in problems of graduate medical education. Your reference committee approves of this request and herewith recommends that the House of Delegates grant such permission.

In paragraph 7 of subheading III of the statement concerning "Essentials of a Registered Hospital," the Report of the Council enters into considerable detail concerning staff meetings. In the judgment of your committee it would be wiser to strike out this whole paragraph and substitute for it the following paragraph:

Staff meetings should be held for the review of the work of the hospital, the discussion of results, the reports of autopsy and pathologic studies, the presentation of papers and such other matters as concern the professional work of the hospital. Your reference committee herewith recommends this substitution.

Respectfully submitted. HARVEY B. STONE, Chairman.

On motions of Dr. Stone, duly seconded and carried, the report was adopted as amended.

Report of Reference Committee on Reports of Officers

Dr. Floyd S. Winslow, Chairman, presented the following report:

1. Address of the Speaker: Believing that the present and the future may be benefited by a study of the past, your Speaker has reviewed preceding records of the House of Delegates and in this commendable self-imposed task he found considerable good.

He notes and calls our attention to the complexity of representation that unites to give this House of Delegates a true democratic composition. This makes it possible to handle issues of vital importance, issues that are vital not only to the medical profession but to the people as a whole.

Your reference committee believes that the latter point might well be more widely publicized.

The Speaker has very wisely noted the lack of errors and reversal of actions in the past as due to two causes: 1. Our Principles of Medical Ethics, which has given us a philosophy. 2. Faith—a faith that has augmented sound progress and opposed gain at the price of freedom—a faith in coordinated effort on the sound principle of checks and balances working to a common purpose—a faith in one another in a world lacking in faith—and a faith that gives hope in believing that the time may be soon when our loyalty to mankind may again be appreciated by the public.

Your reference committee heartily approves the expression of these ideals so clearly and timely expressed by our Speaker.

2. Address of the President: Your reference committee has given careful consideration to the excellent material contained in the presidential address of Dr. Abell. The evidence of his untiring efforts and the breadth of his vision attest his zeal and constitute a perpetual testimonial to his leadership and high purpose in the profession.

Your reference committee considers as especially noteworthy his strict observance of the principles and policies adopted by this House of Delegates. His suggestion for improving medical care by utilizing existing vacant hospital beds is a step in the right direction and should be adopted and followed.

Your reference committee recognizes the importance of expansion of public health, maternal and child welfare services along the line which he recommended; however, it is well to note his unqualified disapproval of recommendation 4 of the National Health Program.

His reference to the methods used by the government for the purpose of arousing strong sentiment against the American Medical Association shows to what ends a bureaucratic system will resort. The temperate language in this reference is no less a tribute to his forbearance than it is an indictment of those who would see justice trampled under foot.

3. Address of President-Elect: Attention was drawn by the President-Elect to the threats to the science of medicine by social and governmental agencies by creating the impression that there is a near breakdown in medicine. Your reference committee feels that cognizance should be given to such unfounded threats.

His reference to the increasing numbers of medical organizations meets with our approval and deserves consideration by all members of the medical profession. We need stronger union and greater efforts in the solution of our problems. Multiplicity of medical organizations, unless there is definite need for such, only dissipates our strength. Officers and members should refrain from expressing opinions not approved by the American Medical Association, unless they make it clear that it is their personal opinion and not the policy of the organization. Much of the misunderstanding in the bodies of organized medicine is caused by statements of individuals who are believed by the public to speak authoritatively but who, in fact, speak only for themselves.

The President-Elect's reference to the evils concerning the medical profession at the beginning of this century is noted with interest. Those evils were the existence of the proprietary medical schools, commercialized medical directories and proprietary medicines.

Fine leadership contributed toward the correction of these paramount evils. Such leadership can now be depended on to effect a satisfactory adjustment of the present day problems. His reference to the high type of medical journals published by the American Medical Association as compared to those published by some private companies is noteworthy. The contrast is obvious.

The President-Elect refers to the high standard and fearless policy of the Editorial Department of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Such policies merit the continued confidence of the House of Delegates and reflect the ideals of the Editor.

4. Report of the Judicial Council: 1. Ethics of Various Plans of Reducing Sickness Cost: It is obvious that any plan for reducing sickness cost to the low-income population by periodic prepayment should be ethically solved. To this end your reference committee recommends that the Judicial Council be consulted in those instances in which any question of ethics is involved under the plan for consideration.

2. Teaching in Schools of Chiropody or Podiatry: Your reference committee approves the position taken by the Judicial Council with regard to teaching of chiropody or podiatry and recommends that the House of Delegates approve such teaching, provided the schools in which it is conducted are connected with approved medical colleges which require recognized standards of preliminary education. Under such conditions the curriculum is supervised by the state department of education, and graduates of such schools are licensed to practice by examination.

3. Diagnostic Clinics: Your reference committee recognizes the difficulty arising from the effort to define Diagnostic Clinic and commends the conservatism surrounding such an effort. It agrees with the conclusions of the Judicial Council that:

A. A diagnostic clinic is an organization of physicians whose sole work in the clinic is to make or supervise diagnostic examinations of patients referred to the clinic by doctors of medicine, or to collaborate in general diagnostic surveys.

B. The reports of the diagnostic clinic on examinations and tests are made only to the referring physician unless he requests that the case and the recommendations for treatment be discussed with the patient as part of a professional consultation at which the relationship of the results of the diagnostic studies to the general condition of the patient is open for discussion. In such case, discussion is only by a member of the staff.

C. The staff of the diagnostic clinic should include representatives from all the specialties that are of recognized diagnostic usefulness. Every clinical examination, laboratory test or x-ray procedure is made by a physician who specializes in that field or under his supervision. The clinic must be equipped to allow the various specialists to exercise fully their abilities.

D. The control of the clinic must be vested in one or more members of the professional staff. Any profits are to be apportioned only to the members of the staff actually engaged in the work of the clinic. There must be no dividends, bonuses or salaries paid any individual except for services rendered.

E. The clinic must be governed in its activities by the same ethical principles as apply to an individual member of the American Medical Association.

Respectfully submitted.

FLOYD S. WINSLOW, Chairman.
WILLIAM H. MYERS.
JAMES Q. GRAVES.
ELBRIDGE J. BEST.
FORREST J. PINKERTON.

The first three sections of the report of the reference committee dealing with the addresses of the Speaker, President and President-Elect were adopted on motions of Dr. Winslow, duly seconded and carried.

Dr. Winslow moved the adoption of the fourth section of the report dealing with the Report of the Judicial Council, and the motion was seconded by Dr. J. Q. Myers, North Carolina. After discussion, Dr. Winslow moved that the fourth section of the report be adopted with the exception of that part which refers to podiatry, and the motion was seconded by Dr. John Z. Brown Sr., Utah, and adopted after further discussion.

Report of Reference Committee on Medical Education

Dr. Harvey B. Stone, Chairman, presented the following resolution as a substitute for the Resolution Limiting Directorship of Approved Clinical Laboratory to Licensed Physician, which was adopted on motion of Dr. Stone, duly seconded and carried:

WHEREAS, Years ago the examinations made by clinical laboratories were largely factual in nature and, as a consequence, a portion of the work was done by chemists and technicians not having medical degrees or being licensed to practice medicine; and

WHEREAS, The developments in laboratory medicine, particularly in the last one or two decades, have been such as to require clinical medical knowledge for the safe performance of many of the newer diagnostic procedures undertaken; and

WHEREAS, Specimens are obtained by surgical means from the spinal canal, veins and organs of the body and dyes and other drugs are injected for the purpose of various functional tests, all definitely requiring clinical medical experience and judgment for their performance and interpretation if the safety of the patient is to be guarded; therefore, be it

Resolved, That the American Medical Association specifically recognizes the practice of clinical pathology as a specialty of medicine and believes that those persons who practice it and who act as directors of clinical laboratories must be graduates of recognized medical schools and licensed to practice medicine in their respective states; and further be it

Resolved, That owing to the nature of the subject, the American Medical Association recognizes that it is necessary for these persons to complete at least three years of adequate training in clinical pathology, in addition to the training which they have received in regular courses in medical schools, before assuming the directorship of clinical laboratories.

Report of Committee on Legislative Activities

Dr. E. H. Cary, Chairman, presented the following report of the Committee on Legislative Activities, which was referred to the Reference Committee on Legislation and Public Relations:

Mr. Speaker and the Members of the House of Delegates:

Since the last session the members of the Committee on Legislative Activities, individually and collectively, have been drawn into many conferences concerning legislation affecting the interest of the members of the medical profession in the United States.

The committee calls your attention to certain phases of legislation affecting the veterans and medical relief on which it has always reported to the House. In addition it wishes to call your attention to some immediate problems which will require the active service of this committee in cooperation with other members of our organization. It is our hope that the House will make clear to the members of the committee its position on any controversial issue which may come before the Congress.

VETERANS' ADMINISTRATION

A report submitted to the Congress on Jan. 30, 1939, shows that, of the 50,670 veterans under treatment at the end of last year, 47,285 were in facilities controlled by the Veterans' Administration, 2,512 in other government hospitals and 873 in state or civil institutions. Over 63 per cent of these veterans in all hospitals are receiving treatment in the facilities in the state of their reported home addresses. Since March 3, 1919, when the acquisition of the government hospitals was first authorized for the treatment of veterans of the World War, there have been 1,863,289 admissions of veterans of the United States to hospitals, of which 152,966 were made during the last year. This load has been increasing since 1919.

The committee finds that on June 30, 1938, there were in Veterans' Administration facilities 51,991 hospital beds, apportioned to the different classes of patients as follows: neuropsychiatric, 28,119; tuberculosis, 5,121; general, 11,662; general homes, 7,089. During the fiscal year 1939 it is proposed to add 3,453 new beds, as follows: neuropsychiatric, 1,334; tuberculosis, 155; general, 1,012; general homes, 952. During the fiscal year 1940 it is proposed to add 6,731 new beds, as follows: neuropsychiatric, 3,686; tuberculosis, none; general, 2,653; general homes, 392. If the proposed plans are carried out there will be available, as of June 30, 1940, a total of 62,175 beds in veterans' hospitals, as follows: neuropsychiatric, 33,139; tuberculosis, 5,276; general, 15,327; general homes, 8,433. The present hospital building program of the Veterans' Administration is being carried out under an appropriation of $4,500,000 made available directly by the Seventy-Fifth Congress, but this is being supplemented by a sum three times as large, $13,268,200, donated by the Public Works Administration.

The Administrator of Veterans' Affairs contemplates as an ultimate goal 100,000 beds in veterans' hospitals presumably for all classes—one bed for every forty veterans throughout the United States. He estimates that the peak load of hospitalization will be reached in 1949 or 1950. What is to become of these hospital facilities as that load declines is not clear.

In addition to the foregoing hospital bills, H. R. 6041, introduced by Representative Hendricks, Florida, proposes to authorize the appropriation of $1,750,000 to construct a 500 bed capacity veterans' hospital on or near the central east coast of Florida, for the accommodation of general medical and surgical disabilities. The other bill, S. 2257, introduced by Senator Gurney, South Dakota, proposes to authorize the appropriation of $1,000,000 to construct an adequate building or buildings to be used as a veterans' hospital and diagnostic center in the first congressional district of South Dakota. The bill does not indicate what type of hospital it proposes to construct.

It would seem that the Veterans' Administration will continue to build hospitals up to the point of the 100,000 beds or more if money can be developed as it has been the last few years.

MEDICAL RELIEF THROUGH FARM SECURITY ADMINISTRATION

The Farm Security Administration claims that it found it necessary to help provide such medical care in the course of its efforts to rehabilitate more than 700,000 low income or destitute farm families because good health is a necessary part of a family's economic rehabilitation and says that quite aside from any humanitarian purpose, it has, as a lending agency, found that a family in good health is a better credit risk than a family in bad health.

The medical director of the Farm Security Administration reports that it has, through the cooperation of state medical associations, developed plans under which families other than the low income farm families in twenty-three states are being helped to obtain medical care at a cost which they can afford. In general, these plans are simple. They are based on the borrower's ability to pay for medical services, as determined by his farm plan, on free choice of physician and on the setting aside of funds, in the hands of a trustee, at the beginning of the operating period. The amount paid for participation varies in different localities. The usual payment is between $15 and $30 a year for each family. When necessary, the Farm Security Administration will increase the size of its loan to enable a borrower family to participate. The details vary, but a part of the pooled funds held by the trustee is allocated at the beginning of each period for hospitalization and emergency needs including surgical care. The remaining fund is then divided into equal monthly allotments for the period covered.

County plans for medical care are in operation in fifty-six of the seventy-five counties in Arkansas, twelve counties in Missouri, forty in Mississippi, twelve in Texas, twenty-six in Alabama, eighty-five in Georgia, seven in Ohio, five in Tennessee, two in Indiana, seven in Oklahoma, three in Iowa, four in New Mexico, three in Virginia, six in North Carolina, twelve in South Carolina, one in Montana, two in Idaho, fifteen in Louisiana, one in New Jersey and four in Florida, and plans have been made in some other states.

The committee would like to call your attention to a mimeographed report under the title "Medical Care Plans for Low Income Farm Families" issued by the Farm Security Administration April 10, 1939. This report gives a great deal of additional information, as well as a financial report with the breakdown of a typical group, showing that the average family pays approximately $27 a year and just how this money is expended. With respect to North Dakota and South Dakota, which states have benefited most through the Farm Security Administration, it is stated that the funds are distributed as follows: for physicians, 51 per cent; for hospitalization, 37 per cent; for dentists, 8 per cent, and for drugs and medical supplies, 4 per cent.

At the end of each month the bills are submitted to the state office of the North Dakota Farmers' Mutual Aid Corporation

at Bismarck or to the South Dakota Farmers' Aid Corporation at Huron, and they are then reviewed and totaled. If the total amount of these bills is less than the amount set aside for that period, all bills are paid in full; if it is in excess of the amount set aside, each bill is cut proportionately.

Every one is familiar with the publicity which has appeared in some of the national magazines about the Farm Security Administration and knows that it has been stated that this service is "a rehearsal for state medicine."

In a recent letter from the director, Dr. Williams, the following statement is made: "Except in the two Dakotas and in California, the plan is developed on the county as a unit. In some states we have a few larger units consisting of several counties. The problem in the two Dakotas, as you know, is really one of relief. There are something like 18,000 families in each state who because of drought and crop failure (grasshoppers) are receiving grants from the Farm Security Administration. Such a large number of families makes it administratively desirable to handle the plan on a statewide basis."

Nothing has come to the attention of the committee that discloses the methods employed in determining the economic status of persons seeking the benefits of cheap medical service or the standard by which the administration determines whether such benefits shall be granted. Information is available from physicians in North Dakota and South Dakota to the effect that the reported arrangements of the Farm Security Administration are not working well and that funds have been exhausted in many places, thus shifting the load of medical care for the clients back to the medical profession. If any member of the House of Delegates has any additional information that this service is being handled in a manner detrimental to the public welfare, the committee would like to be advised.

Recently the President has submitted to Congress his plan No. 1 for government reorganization. The interest of the medical profession in this proposed reorganization centers in the proposal to create a Federal Security Agency in which will be grouped the United States Employment Service, the office of education, the United States Public Health Service, the National Youth Administration, the Social Security Board and the Civilian Conservation Corps. This plan was submitted pursuant to the authority granted the President in a law approved April 3, 1939, and designated as the "Reorganization Act of 1939." This act, as you may know, provides that the President may submit plans to Congress proposing to (1) group, coordinate and consolidate executive agencies of the government, as nearly as may be, according to major purposes, and (2) reduce the number of agencies by consolidating those having similar functions under a single head, and abolish such agencies or such functions thereof as may be necessary for the efficient conduct of the government.

Members of the Committee on Legislative Activities appeared before a Senate committee last year and conveyed to them the suggestion of the House of Delegates that public health and matters related to medical affairs be placed in the hands of a new cabinet officer, preferably a physician. They were informed that the President was opposed to this idea and that it was unlikely that a new cabinet position would be created.

On January 23 the President transmitted the Interdepartmental Committee report to the Congress, with the recommendation that it be given careful study.

Senator Wagner, on February 28, introduced into the Senate a so-called National Health Bill (S. 1620) and since that time contact has frequently been made with the chairman of the Senate Committee on Education and Labor, to which it was referred. The Association was invited to have representatives appear before the Senate Committee early in May but requested permission to submit simply a brief at that time and to send its representatives after this session of the Association. This request was granted. Therefore, the House of Delegates has an opportunity to consider the Wagner bill. The brief, which in a general way stated the position of organized medicine, was presented on May 5 by Dr. Arthur W. Booth, Chairman of the Board of Trustees, who was subjected to many questions regarding the Wagner bill, and the Committee on Legislative Activities with other members of the association has an opportunity to appear before the Committee on Education and Labor on May 25 to present the views of the medical profession, based on the action of this House.

It is fair to say in this connection that a program was outlined by the Committee on Legislative Activities in cooperation with the Board of Trustees, and that that program, in which the Interdepartmental Committee report was broken down, together with the previous expression of the House of Delegates on each of the subjects, was sent to various gentlemen who are working with the Committee on Legislative Activities.

The committee gladly cooperated with the Board of Trustees and other members of this organization in advocating the survey which was recently made in the 747 counties of the various states covering some 40 million people, and believes that it is a most important contribution. For the purpose, an appropriation was made by the Board of Trustees.

For several years this committee has taken a sympathetic interest in the medical problems of the farm population as expressed by the American Farm Bureau Federation. This federation has under consideration the formation of a mutual assistance plan which would incorporate the principle of cash indemnity to its members, a principle which this House approved at the special session in Chicago in September 1938. The intention of this group to consider the use of principles which are consistent with the actions and policies of the Association deserves our commendation. It is to be hoped that state and county medical societies will be sympathetic to the efforts of this group to solve their own medical problems.

Respectfully submitted.

E. H. CARY, Chairman.
F. S. CROCKETT.
R. L. SENSENICH.
J. H. J. UPHAM.
C. B. WRIGHT.

Resolutions on Opposition to the Wagner Bill

Dr. E. H. Cary, Texas, presented the following resolutions, which had been unanimously adopted by the house of delegates of the State Medical Association of Texas, and which were referred to the Reference Committee on Consideration of the Wagner National Health Bill:

WHEREAS, There has been an effort for some years on the part of certain individuals to bring about in this country a system of practice of medicine in which the relation of the patient and his family doctor as it now exists will undoubtedly be destroyed; and

WHEREAS, The Interdepartmental Committee study and report was based on a national health survey made by Works Progress Administration workers under the surveillance of the United States Public Health Service, which survey led to the statement that there were forty million people in the United States without adequate medical care; and

WHEREAS, There followed a survey directed by the Board of Trustees of the American Medical Association through its constituted state associations, in which survey the medical, dental and nursing professions, together with the social and welfare workers, hospitals, schools, health departments, industry, labor and other organizations, have shown that of the forty million people in the 747 counties in the United States covered by the American Medical Association study no considerable number are unable to secure medical service if and when they need it; and

WHEREAS, In a survey in Texas which has been a part of the aforementioned survey by the American Medical Association, the facts developed have been essentially the same; and

WHEREAS, The Wagner bill has been predicated on the national survey of the Interdepartmental Committee; and

WHEREAS, The medical profession has always favored the extension of preventive medicine as part of the work of the United States Public Health Service operating through the state health agencies; and

WHEREAS, The medical profession has traditionally taken care of the indigent sick and would welcome any economic change in the country looking to the better care of the indigent sick; and

WHEREAS, There is an average of 31.1 per cent of the hospital beds unoccupied and the medical profession would be deeply interested in some effort to relieve this economic waste of the facilities already provided for the care of the sick and would gladly support a measure which would provide a hospital in any section of the country where an actual need exists and where there is proper professional personnel to staff it; and

WHEREAS, The Wagner bill No. S. 1620 obviously leads by indirection to compulsory health insurance, to which the medical profession is bitterly opposed; therefore be it

Resolved, That our senators and representatives in Congress be requested to oppose the Wagner bill; and be it further

Resolved, That the medical profession of Texas stands ready at any time to further any reasonable plan, through the proper agencies existing in Texas, to solve such problems as are considered in the Wagner bill.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. John H. Fitzgibbon, Chairman, presented the following report, which was adopted section by section and as a whole on motions of Dr. Fitzgibbon, duly seconded and carried:

Report of the Secretary

Your reference committee has read with satisfaction the report of the Secretary, which indicates that an increasing number of physicians are alining themselves with organized medicine. This growth, bringing the membership to more than 113,000, the highest number ever recorded, is eloquent and convincing testimony in refutation of the claims made in some quarters that there is dissatisfaction in the ranks of the profession.

Your reference committee notes with approval the comment of our Secretary that, on returning to their respective jurisdictions, members of this House of Delegates have in certain instances promptly prepared and published informative reports and résumés of the actions of this body. Your reference committee believes that this practice should be more widely adopted. In view of the widespread interest of both professional and lay groups in the actions of the House of Delegates, our members, whose training best qualifies them to do so, should be encouraged to disseminate the desired information in regard to our activities.

Your reference committee believes that it voices the sentiment of this House of Delegates in expressing appreciation to our Secretary for the untiring efforts manifested by him over a long period and particularly during the past year with its unusual problems.

Report of Board of Trustees

Your reference committee approves in general the interesting and comprehensive report of the Board of Trustees. The report contains so much of interest and importance that the lack of time for adequate comment is regretted. It desires, however, to comment on some of the more important features of the report.

Your reference committee notes with interest and concern that as the result of increased and unusual activities the total expenditures of the Association for 1938 exceeded by more than $11,000 the annual income. It is hoped that there will be lessened emergency expenditures and that the increase in the Fellowship dues and subscriptions will provide sufficient future revenue to meet increased cost of operation and for the continuation of the normal activities of the Association.

The history of THE JOURNAL shows continued advancement and extension in fields of scientific and economic interest. The addition of the Student Section and the development of the Organization Section have undoubtedly increased the value of THE JOURNAL and distinguished it from all similar publications. The reference committee would like to suggest that the Organization Section include items of general economic interest and that the material in this section be edited so as to make it easy to read.

Your reference committee suggests that, owing to general economic conditions, the editorial policies of the special journals be guided to some extent by economic considerations.

Your reference committee approves the action of the Board of Trustees in meeting with representatives of recognized hospital associations and other national organizations and urges continued cooperation with these groups. It recommends approval by the House of Delegates of such action by the Board of Trustees.

In regard to the communications from the National Medical Association, Inc., your reference committee feels that the points raised by that association relative to listing its members in the American Medical Directory should be carefully considered by the Board of Trustees. It is noted that the Board feels that a method for listing Negro physicians in a manner not objectionable to them may be worked out.

Your reference committee commends the creation of the Division of Drugs, Foods and Physical Therapy and feels that such coordination will expedite the activities of the various councils included.

Your reference committee recommends that the House of Delegates approve the action of the Council on Physical Therapy regarding the standardization of tests for hearing for the estimation of compensation, as well as for other purposes. The program of work outlined by this Council is being started at this meeting of the American Medical Association.

Your reference committee notes with approval the vigorous manner in which the Association's newest Council, that on Industrial Health, has approached the objectives included in its field.

Your reference committee commends the efforts of the Bureau of Health Education to inform the public in matters of health, and particularly its increased activity in radio broadcasting and the appearance of its personnel before lay groups.

The work of the Bureau of Medical Economics deserves careful study by the House of Delegates as well as by all other members of the Association. Among the major activities should be mentioned the national survey of the need and supply of medical care. With the aid and cooperation of physicians and medical organizations throughout the country, the Bureau has assembled a great volume of data of value in meeting the economic problems of medicine. This material will be published in a special volume which will merit careful study.

The Bureau is commended for its continued study of medical service plans, group hospitalization and other economic problems and for the reports it has prepared on these subjects.

Your reference committee wishes to congratulate the Bureau of Exhibits on the high quality and educational value of the scientific exhibits at this and the San Francisco session.

Your reference committee approves the supplemental report of the Board of Trustees concerning the Army Medical Library.

The Bureau of Legal Medicine and Legislation is commended for its continued efforts in behalf of the profession during the past year.

In concluding this report, your committee wishes to say that it feels that it has the sympathetic understanding of this House in recording its inability to present in the time available even a brief summary of the condensed activities of the Board and Secretary covering some 100 pages in the Handbook. It is acutely aware, as it knows you are, of the herculean task which their offices impose. Your thoughtful rereading of these illuminating pages is urgently recommended.

It is not of their recorded activities but, rather, of the personalities of the men composing these agencies of our Association that we desire now to speak. Inspired by no thought of reward save the hope that their efforts throughout the interval between our annual sessions may preserve for the people of this country the American system of medical care purchased through the enlightened leadership and sacrifices of our forebears, they struggle without complaint with the ever increasing problems which vex us. Through these labors, supported by the rank and file of our profession, ethical and humanitarian principles so dear to us are to be preserved.

Your reference committee records these sentiments in the hope that full and appreciative recognition of the vital functions performed by the Secretary and the Board may serve to warm the deeper recesses of their hearts and help to sustain them in the arduous days that lie before us.

Respectfully submitted.

JOHN H. FITZGIBBON, Chairman.
J. NEWTON HUNSBERGER.
GRANT C. MADILL.
CHARLES W. ROBERTS.
W. F. BRAASCH.

Report of Reference Committee on Miscellaneous Business

Dr. H. C. Macatee, Chairman, presented the following report, which was adopted section by section and as a whole on motions of Dr. Macatee, duly seconded and carried after discussion by Drs. Arthur J. Bedell, Section on Ophthalmology, and Dr. Macatee:

Resolution on Testing of School Children for Early Detection of Defective Vision and Hearing: Your reference committee recommends that this resolution, presented by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, be endorsed and that all state medical societies be encouraged to

originate programs through county societies to carry out the purposes of the resolution or to foster such programs as already exist.

Communication from the Department of Christian Social Relations of the Episcopal Diocese of Western Michigan: This communication seemed to your reference committee to be germane to the work of the Committee on Consideration of the Wagner National Health Bill (S. 1620), to which committee it was transmitted. However, the Committee on Miscellaneous Business recommends that, on completion of consideration of the Wagner bill by this House, the sender of this and similar communications be informed of the action taken with an expression of the hope that the American Medical Association may count on their continued support.

Respectfully submitted.

HENRY C. MACATEE, Chairman.
BEN R. MCCLELLAN.
FRED MOORE.
WILLIAM WESTON.
E. S. HAMILTON.

Report of Reference Committee on Legislation and Public Relations

Dr. Holman Taylor, Chairman, presented the report of the Reference Committee on Legislation and Public Relations, which as amended reads as follows:

1. Report of the Committee to Study Problems of Motor Vehicle Accidents: This is a report of progress. It is, however, rather complete and comprehensive. It covers problems of physical and mental defects and of alcoholic intoxication. The defects are permanent deficiencies, transitory deficiencies and incidental deficiencies, all of which, it is pointed out, may be either compensated for or relieved. The most disturbing element in automobile driving, it seems, is alcoholic intoxication. This phase of the problem is, in our opinion, handled quite adequately. The application of chemical tests is made, and metes and bounds for medicolegal interpretation are set up. Your reference committee considers the standards thus raised to be fair and just and protective of the interests of both the individual and the authorities. It recommends the adoption of the report.

2. Resolution on Medical Care to the Indigent: Your reference committee finds itself in thorough sympathy with the resolution on Medical Care to the Indigent presented by Dr. Walter B. Martin, Virginia. However, it appears that this House of Delegates has already adopted, in principle and in fact, the recommendations of the resolution. It does not appear necessary, or even advisable, that they be readopted at this time on the recommendation of this committee. The matters concerned in the resolution are now being considered by the Reference Committee on Consideration of the Wagner National Health Bill. Your committee has taken the liberty of furnishing that committee with a copy of the resolution and recommends that the entire matter be so referred.

3. Medical Patents: The report on medical patents is a supplementary report of the Board of Trustees on a matter referred to it by this House. It is merely a discussion of the situation and carries no recommendations. It appears to your reference committee, however, that something should be done about it.

Since the beginning of medical ethics it has been held that it is not proper for a physician to receive financial rewards from any patent covering any agency useful in either prevention or cure of disease, the idea being, of course, that there should be no restrictions on the use of such agencies so that all may alike be benefited. Of recent years, however, the situation has changed remarkably. New problems of great moment have arisen. The honored traditions of the medical profession are in grave danger because of these changes. It appears on the one hand that discoveries in medicine should be protected through patents so that purity may be preserved and the public thereby protected, on the other hand that this effort instead of helping is likely to hamper. Further progress in any particular development which is under patent can be made only through the consent of the holder of the patent. It does not appear that the physician making a discovery which is patented for whatsoever reason now profits materially therefrom.

It seems to your reference committee desirable that some change in our Principles of Medical Ethics should be made. If, as seems to be the case at present, the individual physician, or other individuals, may not profit from any discoveries made, and we do not see how arrangements to change that can be effected, it would be better either that patents be not taken out or that, in those rare instances in which patents are necessary, they be dedicated to the public. Your reference committee recommends that the matter be referred to the Judicial Council of the American Medical Association with the request that it rewrite accordingly the section of the Principles of Medical Ethics referring to patents, and that its report be returned to the House of Delegates for action. Your reference committee recommends further that the proper officials of the American Medical Association be requested to call this matter to the attention of other organizations having to do with health problems, and particularly to the Council on Pharmacy and Chemistry and the Council on Foods of the Association and the laboratories of the United States Public Health Service.

4. Resolution on Granting a Seat in the House of Delegates to a Woman Delegate: This resolution appeals to your reference committee as being one of the most far-reaching resolutions introduced at this session. A division of the medical profession along the lines of sex for any professional purpose appears to be unwise. Beyond any doubt, a policy along the lines of the resolution would make the Association liable to similar demands from a variety of groups. Indeed, this has already happened. It is likewise certain that to grant our women physicians the representation sought in this resolution would be to establish multiple representation. Our women physicians are now entitled to the representation they seek through regular channels. They have the same opportunities for selection that other members enjoy. To permit the selection of members of this House of Delegates by extramural organizations, organizations over which the House has no control, would be to break the rationale of our plan of organization. Certainly it would be necessary, in order to grant the petition embodied in this resolution, to amend our organic law. Your reference committee recommends that the resolution be not adopted.

5. Resolution Urging That Membership in the American Medical Association Be Not Denied Solely on Basis of Race, Color or Creed: Your reference committee has given this resolution careful and sympathetic consideration. While the resolution does not provide for arbitrary action or any force to the end sought, it does set up a policy. In doing that, the resolution implies that the county medical society should not, in effect, have the right of selection of its own members, a fundamental principle in our organization. Readjustment along the lines of the resolution are rapidly taking place in those states most vitally interested. Your reference committee recommends that the resolution be not passed.

Respectfully submitted.

HOLMAN TAYLOR, Chairman.
L. G. CHRISTIAN.
KARL S. J. HOHLEN.
THOMAS P. FARMER.
G. HENRY MUNDT.

The report of the reference committee was adopted, as amended, section by section and as a whole on motions of Dr. Taylor, duly seconded and carried, after discussion.

Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. Charles E. Mongan, Chairman, presented the following report:

1. Resolutions on Rearrangement and Rewording of the Principles of Medical Ethics: Your reference committee feels that any proposed change in the Principles of Medical Ethics of the American Medical Association is a matter for serious consideration and that such a study as the resolutions demand should be done by a body of the American Medical Association which has to do with the administration of the Principles of Medical Ethics in the last analysis.

Your reference committee therefore recommends that these resolutions offered by the California delegation be referred to the Judicial Council for study and that the Judicial Council

report to the House of Delegates its conclusions at the session of 1940.

2. Resolutions on Exhibition of Medical or Surgical Procedure to Lay Groups: Your reference committee is of the opinion that the evil complained of can be best settled by local supervision through state or county societies. Such procedure will not necessitate any changes in the Principles of Medical Ethics of the American Medical Association as at present enunciated.

Therefore your committee recommends that such a procedure be followed by the state and county medical societies.

Respectfully submitted.

CHARLES E. MONGAN, Chairman.
T. K. GRUBER.
EDGAR A. HINES
FELIX P. MILLER.
E. G. WOOD.

The report of the reference committee was adopted section by section and as a whole on motions of Dr. Mongan, duly seconded and carried.

Report of Reference Committee on Rules and Order of Business

Dr. John H. O'Shea, Chairman, recommended that the Executive Session of the House of Delegates convene at 1:30 p. m. Wednesday, May 17, instead of at 1:15 p. m. Tuesday, May 16. The motion was seconded by Dr. John Q. Myers, North Carolina, and carried.

Expression of Appreciation

Dr. George W. Kosmak, New York, moved that the House by a rising vote express its appreciation to the various reference committees for their activities. The motion was seconded by several delegates and carried unanimously.

Dr. Arthur J. Bedell, Section on Ophthalmology, moved that when the House recesses today it do so until tomorrow at 1:30 p. m., and the motion was seconded by Dr. A. A. Herold, Louisiana, and carried.

NEW BUSINESS

Resolutions Proposing Amendments to the By-Laws

Dr. J. E. Paullin, Section on Practice of Medicine, introduced the following resolutions, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws and to the Reference Committee on Medical Education:

WHEREAS, The establishment and maintenance of suitable standards in the field of medical education is becoming of increasing importance; and

WHEREAS, The gradual development of the hospital as a center for the training of interns and residents and for graduate medical education of the physician has raised many new problems; and

WHEREAS, The creation of examining boards in the medical specialties and the establishment of many organizations concerned with the qualification of specialists have thrown a greatly increased burden and responsibility on the Council on Medical Education and Hospitals; and

WHEREAS, It should be apparent that the leadership in correlating the various interests concerned with these problems must rest on the American Medical Association as being the one and only organization embracing in its membership representatives of all these interests and activities; therefore be it

Resolved, That the By-Laws of the American Medical Association be amended as follows:

1. Amend chapter VII, section 3, by eliminating "(*b*) Council on Medical Education and Hospitals" so that that section when amended shall read as follows:

SEC. 3. STANDING COMMITTEES.—Standing committees shall be the following:

(*a*) Judicial Council.

(*b*) Council on Scientific Assembly (as amended, 1923 and 1939).

2. Amend chapter VIII, section 1, by deleting the portion beginning on line 4 "The Council on Medical Education and Hospitals" to the sentence beginning "The Members of the Council on Scientific Assembly," and by inserting the following: The Council on Medical Education and Hospitals shall consist of nine members, each elected for five years, two being elected each year for four consecutive years until the fifth year, when one shall be elected. The members of the Council shall be selected by the Board of Trustees, who shall make their choice on the basis of securing for membership in the Council representation from general medical practice, special medical practice, medical education and graduate medical education. Members of the Council shall be eligible for not more than two consecutive terms. This Council shall prepare each year a report of its work and its recommendations, which shall be submitted to the House of Delegates.

3. Amend chapter IX, section 2, by inserting after the words "medical education" in line 4 the words "including premedical, undergraduate and graduate medical education"; and be it also

Resolved, That the present members of the Council on Medical Education and Hospitals shall be continued as members until the terms for which they were appointed shall have expired and that they shall be considered eligible for reappointment.

Resolution on Prescribing of Radium

Dr. E. S. Hamilton, Illinois, presented the following resolution, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws and to the Judicial Council:

The report of the Special Committee appointed by the President of the Adams County Medical Society (Ill.) to study the present ruling of the American Medical Association relative to the rental of radium is as follows:

WHEREAS, At the San Francisco session last year the House of Delegates of the American Medical Association passed certain resolutions condemning the rental of radium under certain conditions, namely, the prescribing and directing of the use of radium in the case of a patient whom the prescriber has not examined or seen; and

WHEREAS, In consideration of the fact that such a rigid ruling would work a great hardship on thousands of members of the American Medical Association and cause great suffering to thousands of citizens of the United States, especially those who are remotely situated from sources of radium; that many patients would be denied the use of radium if they were compelled to make long trips to a source of radium; that many patients have such great confidence in their physicians that they distinctly prefer that he personally administer such radium treatment; that since the pioneers in radium therapy and probably the greatest advocates of radium were not radiologists but leading gynecologists and dermatologists; that since many specialists are well qualified to make many of the applications of radium, because of their specialized knowledge and surgical technic, as is the average radiologist; that since an experience of over twenty-five years, during which time many thousands of patients have been treated, has shown that many conditions in which radium is commonly used can be satisfactorily treated and with great benefit to the patient by the average physician under proper supervision and without a radiologist personally examining the patient on whom the radium is to be used; that because of the great expense of radium it is not practical for the average physician to own it; that the average physician sees so few cases in which radium is needed in his practice that it is not practical for him to make the large financial outlay to purchase it, and that since it is already considered an ethical procedure for physicians to lease radium for long periods or to own it outright, regardless of their qualifications to use it; therefore be it

Resolved, That it is considered ethical for a member of the American Medical Association personally to describe or write a description of a patient on whom he wishes to consider the use of radium and submit it to an experienced radiologist who likewise is a member of the American Medical Association; that if the condition is one in which radium is frequently used and if the radiologist believes the physician submitting the description can use radium with benefit to the patient, he may, therefore, prepare suitable radium applicators, recommend a technic of application and suggest dosage for the treatment of the case under consideration.

A motion to adopt this resolution with the recommendation that a copy be sent to the Secretary of the Illinois State Medical Society, and that the delegate of the Adams County Medical Society be instructed to present it to the House of Delegates of the Illinois State Medical Society at its next annual session (Rockford) for their approval and with the request that the delegates of the Illinois State Medical Society be requested to present it to the House of Delegates of the American Medical Association at its St. Louis meeting was adopted without dissenting vote.

The Committee on Resolutions recommended the approval of the resolution presented by the Adams County Medical Society and the concurrence in its recommendations.

Adopted by House of Delegates May 4, 1939, Illinois State Medical Society.

Resolutions on Army Medical Library and Museum

Dr. Henry C. Macatee, District of Columbia, presented the following resolutions, which were referred to the Reference Committee on Miscellaneous Business:

The following resolutions were adopted by the Medical Society of the District of Columbia at its annual meeting held May 3, 1939:

WHEREAS, The Army Medical Library and Museum are housed in a building entirely inadequate for their present purposes and without possibility of expansion for future growth; and

WHEREAS, The immensely valuable collection of medical literature and of anatomic and pathologic specimens is in constant danger of destruction both from the hazards of fire and from the limited space for their proper preservation; and

WHEREAS, The Army Medical Library and Museum constitute a monumental asset both to the United States government and to the medical profession of the entire country; and

WHEREAS, The Secretary of War was authorized by Act of Congress, approved June 15, 1938, to construct a building to replace the present quarters of the Army Medical Library and Museum but was not enabled by the necessary appropriation to carry out the purpose of the Act; now therefore be it

Resolved, That the Medical Society of the District of Columbia respectfully petitions the Congress to provide the necessary funds for a new and adequate building for the Army Medical Library and Museum at as early a date as possible; and

Resolved, That copies of this resolution be forwarded to the President of the United States, to the Secretary of War, to the Director of the Budget, to the Surgeon General of the Army, to the Chairman of the Senate and House committees on military affairs and to the senate and house committees of the District of Columbia; and be it further

Resolved, That the delegates be instructed to present this resolution to the House of Delegates of the American Medical Association at the St. Louis Session and to endeavor to secure the endorsement of its purposes by that House.

These resolutions are presented to this House with the request that they receive your endorsement.

Report of Committee on Medical Care

Dr. W. F. Braasch, Chairman, presented the following report, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary:

The objectives of the American Medical Association in making this survey were to obtain all available facts about the need and supply of medical care in the United States. Nine special forms were prepared and distributed to individuals and agencies concerned with the care of the sick, including physicians, dentists, hospitals, nurses, pharmacists, health departments, private and governmental welfare and relief agencies, private and public schools, universities and colleges, and industrial, fraternal, mutual benefit, group hospitalization and similar organizations.

Interest in the survey varied greatly in different sections of the country, as well as in adjoining states and counties. Among the barren areas may be mentioned some states in which, apparently because of historic aloofness to innovations, but little cooperation was given. Then, too, several states in which recent poorly conceived surveys had been made, with great expense and doubtful results, were delinquent. One state relied on data gathered in a previous state survey, which, however, did not fit in with the objectives of this survey. Several states were late in getting interested and, as a result, their reports are still being held up. One state made a rapid survey, conducted largely by local health officials, and apparently they did not think the results obtained were worth while since the data were not sent in.

No attempt was made to dictate how this survey was to be conducted. Since circumstances varied widely in different parts of the country, no nationwide plan could be followed.

Local Treatments of the Survey

It was urged that each county medical society appoint a committee to discuss all the results, and to prepare a report with recommendations for improvement. There were many county medical societies in which this was done. Some of these committees prepared reports in the form of bound volumes of considerable size, including special types of investigation or material from previous local studies. Such county medical societies found that when the survey was used in such a thorough manner it formed a new foundation for local medical programs.

State medical associations were urged to take the county reports, and, after adding an analysis of statewide medical activities, to summarize the situation in the entire state and to offer suggestions for improvements in medical organization. Some state medical associations deserve special mention for the service which they rendered the medical profession of their own state and of the whole country in making this survey. New Jersey may be offered as an outstanding example: its state report forms a large volume which covers every type of medical problem and lays the foundation for further study and for solutions where these are possible. It is noteworthy that, while several states pleaded lack of funds as a reason for not undertaking the thorough analysis, discussion and summary which were urged, New Jersey reports that only $600 was expended in preparing its report. Examples of studies in individual counties and states have already been published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Extent of Coverage

Up to the present time, 502 county medical societies have sent returns from 763 counties in thirty-seven states. The total population of these counties in 1930 was 43,790,068. Every section of the country was covered, and reports were received from every county in several states.

This survey is more nearly representative of both urban and rural populations than any previous study. Using the standard accepted by the United States Bureau of the Census prior to 1930, it is assumed that the urban population is composed of those living in cities of 2,500 population or more and that all others are rural. According to this standard, the urban population included in this survey was 28,694,853 and the rural population 15,095,215. Reports were received from practically every county in eight states. Returns are still being received and the final report will be even more complete in its coverage.

The survey of the American Medical Association was not designed primarily to produce a statistical report but rather to obtain a consensus as to the need and supply of medical care; yet it revealed certain statistics of sufficient accuracy to be worthy of presentation. Replies were received from 20,199 physicians and dentists. Many counties did not separate returns made by physicians from those made by dentists, and in some localities forms were sent only to physicians. The ratio of returns received from physicians and dentists in counties where a separation was made leads to the conclusion that about 17,000 of the 20,000 forms returned were filled out by physicians. These 17,000 physicians report giving medical service without charge to 2,611,451 persons. This is a little more than 5 per cent of the population covered by the study. Since the number of those who replied was less than 25 per cent of the physicians in the area covered, we are certainly within safe limits of error if we assume that double this amount of gratuitous service was given in all the physicians' offices and patients' homes during this period. This would mean that 10 per cent of the population was given this type of free service. This same fraction (about 25 per cent) of the total number of physicians gave 1,909,713 hours of service in hospitals and clinics in addition to the care of patients at home or in physicians' offices. Any sort of calculation based on these facts demonstrates that the previously used estimate of $1,000,000 a day of free service by physicians in the United States is far below the actual figure. These preliminary estimates will be reviewed, if necessary, in the final report. Another and more detailed, and probably more accurate, check of the amount of free services given by physicians will be provided when Forms IF are completed and tabulated.

The cooperation received from sources other than the medical profession was especially gratifying. Hospitals, nurses, health departments, private or governmental welfare and relief agencies, private and public school systems, universities and colleges, industrial, fraternal, mutual benefit, group hospitalization and similar organizations as well as pharmacists filled out 13,933 forms.

What the Replies Indicate

Next in significance to the comprehensiveness of the sources of information is the unanimity of the replies. If the nurses, hospitals, health departments and relief organizations had differed sharply with the physicians as to the adequacy and accessibility of medical care, there would have been justifiable suspicion of the accuracy of the survey. No such conflict appears in reports from any section of the United States. Whenever physicians report inadequate provision of medical care by relief authorities, this judgment is confirmed by welfare and relief officials. Wherever physicians found difficulty in procuring hospitalization for certain classes, hospital authorities said there were too few beds. When fully 90 per cent of the physicians found that practically every person needing and desiring medical service could obtain it, the hospitals, health departments, nurses and welfare workers confirmed this report. The reason for this unanimity is clear. All were dealing with different phases of the same set of facts and not with theories.

They all saw the same things, and the reports of what they saw were bound to agree if stated honestly and accurately. Such differences as appear were shared by each category of reporters.

The points of general agreement are also significant. There was almost complete unanimity and universality of opinion that medical services provided by governmental agencies were the ones most apt to be insufficient. Governmental provisions for medical care for the indigent are everywhere inadequate, except as supplemented by gratuitous services of physicians. From many states came complaints of overcrowded facilities for the care of the mentally diseased, the feebleminded and the tuberculous. For these categories of patients greater expenditures are recommended. School examinations tend to become perfunctory and are not followed by treatment of the defects discovered. This is most frequently explained as being due to indifference or objections of parents to medical care, although there is occasional criticism of lack of interest on the part of school authorities in following up physical examinations with action. Although information concerning dental services appeared to be incomplete, the dental reports indicate that insufficient dental care was received by school children, the indigent and the low income classes. Comments affirmed that much of this deficiency is due to indifference and lack of education concerning the need of dental care, although economic reasons were frequently given.

To the key question which the survey was primarily designed to answer, as to whether any large section of the population is unable to obtain needed and desired medical care, the answer is so nearly unanimous and universal that it should be considered conclusive. Fully 90 per cent of all the sources consulted reported that they knew of no significant number of persons needing and seeking medical care who were unable to obtain it. Nurses, health departments, relief and welfare workers, school and university authorities, industrial and mutual organizations and pharmacists were all asked how many, if any, persons of whom they had knowledge had been unable to obtain needed medical care. They were then asked to comment on any such unmet need and offer any suggestions as to how it could be met. These suggestions and comments are now being analyzed and compiled, and the results promise to offer a body of helpful criticisms and proposals of value in developing better plans for providing medical care.

The overwhelming majority of opinions from all sources agree that forty thousand and not forty million persons in the United States are denied needed medical service. Reports of inability of individuals to secure service are usually accompanied by suggestions of changes in the local organization of medical care by which the needed service can be supplied, and there are numerous reports of such changes being made as a result of the survey.

When to these direct and specific facts are added the many comments and suggestions by the most competent body of trained observers on medical conditions in the United States, the total is the most comprehensive and accurate survey of the need and supply of medical care ever collected. While a full analysis and discussion of comments must await the completed report, sufficient study has been made to permit some generalities.

Much more than a majority of the comments are to the effect that all those who needed and sought medical care received it. Examples of failure to secure such care when needed were usually explained as being due to local conditions not generally difficult to remove. In addition to the inadequacies already mentioned, numerous observers noted the lack of proper accommodations for chronic illnesses, transients and convalescents. Although general proposals for improvements in the organization of medical service were numerous, they formed but a small percentage of all comments. There were many suggestions that plans of medical societies now under way offered possibility of removing many of the difficulties and that some system of prepayment might be desirable for the low income class. There was only an occasional recommendation for compulsory health insurance. It is apparent from the comments made that the great majority of our profession are favorably inclined to changes which would fulfil the needs of local conditions but are opposed to radical changes in the present system of medical care.

One of the important by-products of this survey is that it established methods of more direct cooperation between the central organization of the American Medical Association and the state and county medical societies. This should be of value in the future in carrying out other health activities of national scope.

A working alliance has been established between various agencies allied in medical care which should be of much benefit in future consideration of medical care.

Because of the ever changing nature of medicine, it would be desirable to continue similar appraisals at intervals in the future. Profiting by past experience and with simplification of methods employed, your committee believes that wide cooperation will be given by members of the profession.

Before closing, it should be said that all those who took part in carrying out this survey deserve great credit, since it involved the sacrifice of much time and effort on their part. Particular praise should be given to Dr. Leland and his associates in the Bureau of Medical Economics for their able supervision of the countless details necessary to the execution of this great project.

Respectfully submitted.

WILLIAM F. BRAASCH, Chairman.

On motion of Dr. Arthur J. Bedell, Section on Ophthalmology, seconded and carried, the House recessed at 12:30 p. m. to reconvene at 1:30 p. m. on Wednesday, May 17.

(To be continued)

REGISTRATION AT ST. LOUIS

The total registration at the St. Louis session was 7,412. Below are given two summaries—one by sections and one by states:

Registration by Sections

Practice of Medicine	2,534
Surgery, General and Abdominal	1,265
Obstetrics and Gynecology	561
Ophthalmology	376
Laryngology, Otology and Rhinology	258
Pediatrics	327
Pharmacology and Therapeutics	35
Pathology and Physiology	210
Nervous and Mental Diseases	208
Dermatology and Syphilology	185
Preventive and Industrial Medicine and Public Health	154
Urology	196
Orthopedic Surgery	210
Gastro-Enterology and Proctology	120
Radiology	253
Miscellaneous Topics: Session on Anesthesia	114
Two or more sections or no section marked	406
Total	7,412

Registration by States

Alabama	51	Nevada	5
Arizona	24	New Hampshire	7
Arkansas	142	New Jersey	47
California	209	New Mexico	9
Colorado	109	New York	307
Connecticut	29	North Carolina	32
Delaware	5	North Dakota	8
District of Columbia	50	Ohio	368
Florida	45	Oklahoma	206
Georgia	45	Oregon	23
Idaho	4	Pennsylvania	167
Illinois	1,373	Rhode Island	7
Indiana	322	South Carolina	14
Iowa	272	South Dakota	11
Kansas	209	Tennessee	159
Kentucky	192	Texas	219
Louisiana	76	Utah	25
Maine	9	Vermont	4
Maryland	42	Virginia	33
Massachusetts	107	Washington	37
Michigan	190	West Virginia	25
Minnesota	154	Wisconsin	158
Mississippi	32	Wyoming	8
Missouri	1,630	Miscellaneous	54
Montana	11		
Nebraska	147	Total	7,412

OFFICIAL NOTES

RADIO BROADCASTS

The radio broadcasts by the American Medical Association and the National Broadcasting Company, under the title Your Health, continue as previously announced each Wednesday over the Blue network of the National Broadcasting Company at 1 p. m. eastern standard time (12 noon central standard time, 11 o'clock mountain time, 10 a. m. Pacific time).

Starting April 30, daylight saving time took effect in Chicago. The program is therefore being broadcast at the same hour Chicago daylight saving time, which means one hour earlier central standard time, two hours earlier mountain time and three hours earlier Pacific time. In communities where daylight saving time is in effect there is no change in the hour of the broadcast.

Owing to network conflicts the Chicago broadcast does not occur at 1 o'clock Wednesday but there is a rebroadcast from a recording over station WENR at 8 o'clock each Monday evening (8 o'clock Chicago daylight saving time, 7 o'clock central standard time). The program broadcast each Monday is identical with the network program of the preceding Wednesday.

The next three programs to be broadcast, together with their dates and their topics, are as follows:

May 31. Checking Up on Health.
June 7. Vacations—Why and How.
June 14. Never Stop Learning.

RADIO BROADCASTS FROM THE ST. LOUIS SESSION

The following radio programs were arranged by the Bureau of Health Education and broadcast in connection with the recent meeting of the American Medical Association at St. Louis:

Network Broadcasts:

NBC, Blue:
Irvin Abell, "American Medicine Today."
CBS:
Rock Sleyster, Interviewed by Science Service.
NBC, Red:
W. W. Bauer, "A. M. A. Session News Report."
Station KSD:
Stanley J. Seeger, Milwaukee, "Burns."
John H. Musser, New Orleans, "Medical Education."
James E. Paullin, Atlanta, Ga., "A. M. A. Scientific Assembly."
Howard F. Root, Boston, "Diabetes."
Ralph M. Waters, Madison, Wis., "Anesthesia."
W. W. Bauer, Chicago, "Modern Hospitals."
Station KMOX:
Wingate M. Johnson, Winston-Salem, N. C., "Doctor-Patient Relationships."
Harry E. Mock, Chicago, "Skull Fractures."
Station KWK:
E. Payne Palmer, Phoenix, Ariz., "First Aid in Fractures."

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—S. J. Res. 138 has been reported to the Senate with recommendation that it pass, providing that the President's Reorganization Plans No. I and No. II shall take effect on July 1, 1939. Under Reorganization Plan No. I the United States Public Health Service will be transferred from the Treasury Department to the newly created Federal Security Agency and there grouped with the Social Security Board, the United States Employment Service, the Office of Education, the National Youth Administration and the Civilian Conservation Corps. H. J. Res. 180 has passed the House, authorizing the President to invite foreign governments to participate in the seventh International Congress for the Rheumatic Diseases, to be held in New York, Philadelphia and Boston in 1940 under the auspices of the International League Against Rheumatism. H. R. 2987 has passed the House and Senate providing for the compensation of any employee of the United States government who shall furnish blood for transfusion to a member or former member of the military establishment who is a patient in a government hospital.

Bills Introduced.—H. R. 6249, introduced by Representative Reece, Tennessee, provides that any ex-service man shown to have had tuberculosis of a compensable degree shall, under certain conditions, receive not less than $100 a month for the remainder of his life. H. R. 6270, introduced by Representative Myers, Pennsylvania, proposes to amend the Social Security Act so as to extend the old age benefit provisions to certain nurses in respect of their employment outside of religious, charitable and other nonprofit institutions. H. R. 6319, introduced by Representative Schafer, Wisconsin, proposes to authorize outpatient treatment for non-service connected disabilities of a World War veteran if such veteran has a 50 per cent disability or more directly incurred in or aggravated by service in the World War. H. R. 6352, introduced by Representative Keller, Illinois, proposes to authorize the Secretary of the Interior to make inspections and investigations in coal mines to obtain information relating to health and safety conditions, accidents and occupational diseases therein. H. R. 6377, introduced by Representative Mundt, South Dakota, proposes to authorize an appropriation of $1,000,000 to construct a veterans' hospital and diagnostic center in the first congressional district in South Dakota. S. 2304, introduced by Senator Reynolds, North Carolina, provides that all hospital facilities under the control and jurisdiction of the Veterans' Administration shall be available for any insane person who has served in the Regular Army, Navy or Marine Corps of the United States for ninety days or more, not dishonorably discharged, without regard to the cause of such insanity. S. 2442, introduced by Senator Burke, Nebraska, provides that, in the administration of the Veterans' laws, retired enlisted men of the Army, Navy, Marine Corps and Coast Guard who served in any war, suffering from any ailment, disability or disease shall be entitled to hospitalization and domiciliary care in Veterans' Administration facilities, without regard to the nature or origin of such ailment, disability or disease. S. 2353, introduced by Senator Sheppard, Texas, and H. R. 6225, introduced (by request) by Representative May, Kentucky, propose to authorize an appropriation of $375,000 for the construction, rehabilitation and installation at Carlisle Barracks, Pennsylvania, of a medical field-service school, and such utilities and appurtenances thereto as may be necessary.

DISTRICT OF COLUMBIA

Bills Introduced.—S. 2351, introduced (by request) by Senator King, Utah, and H. R. 6266, introduced by Representative Nichols, Oklahoma, provide for the incorporation of certain persons as Group Hospitalization, Inc., the corporation to be authorized (*a*) to enter into contracts with individuals or groups of individuals to provide for hospitalization of such individuals, (*b*) to enter into contracts with hospitals for the care and treatment of such individuals and (*c*) to cooperate, consolidate or contract with groups or organizations interested in promoting and safeguarding the public health.

STATE MEDICAL LEGISLATION

Connecticut

Bills Introduced.—H. 1618 proposes to require all applicants for examination before the State Board of the Healing Arts to be citizens of the United States. As it is necessary for all applicants for licenses to practice any branch of the healing art to pass examinations before the State Board of the Healing

Arts in anatomy, physiology, hygiene, pathology and diagnosis before presenting themselves to their respective professional boards for licensure, the enactment of this bill, in effect, would limit licensure in the healing art to citizens of the United States.

Bill Passed.—House Substitute for House 1485 has passed the house and the senate, proposing so to amend the laws relating to the practice of chiropractic as to require licensed chiropractors to renew their licenses annually with the chiropractic board and to condition renewal on the presentation of satisfactory evidence that the applicants in the preceding year have attended at least one of the two day educational programs as conducted by the Connecticut Chiropractic Association, Inc.

Florida

Bills Passed.—H. 760 has passed the house and the senate, proposing to authorize the Board of County Commissioners of Clay County to levy an additional annual tax not to exceed 1 mill on the dollar of assessed valuation, the proceeds of which is to be used to care for indigent residents of the county who are in need of hospitalization and medical care. H. 762 passed the house, proposing to authorize the organization in counties having a population of not less than 85,000 and not more than 165,000 of corporations to operate nonprofit hospital service plans whereby hospital care may be provided by such corporations or by hospitals with which they have contracted to such members of the public as become subscribers to said plans under contracts which entitle each subscriber to stated hospital care. S. 501 has passed the senate, proposing to authorize every county maintaining a hospital for the indigent to levy annually a tax not to exceed 4 mills on the dollar, to provide a special fund which is to be used, in addition to the amounts appropriated out of the general fund, for the maintenance of the hospital. S. 606 has passed the senate, requiring each county having a population of not less than 53,000 and not more than 57,000 to provide medical treatment, at county expense, to all indigent residents of the county infected with venereal disease. Each affected county is to be authorized to employ and pay at hourly rates of compensation determined by the board of county commissioners as many physicians as are necessary to provide the treatment required. Such boards are further directed to employ in rotation for periods of not less than six months all the resident physicians who have signified their willingness to undertake and perform such services at the prices set by the boards.

Bills Introduced.—S. 593 and H. 965 propose to establish in Seminole County a branch of the Florida State Hospital for the care and treatment of insane persons. H. 869 authorizes the performance of autopsies on deceased patients of the Florida State Hospital who have no surviving relatives or guardians, or in instances in which the superintendent of the hospital is unable to get in touch with relatives or guardians of deceased patients to procure consent. S. 624 and H. 1092 propose to regulate the manufacture, sale, distribution and advertising of foods, drugs, cosmetics and devices.

Illinois

Bills Introduced.—S. 467 proposes to prohibit any person from practicing as a consulting psychologist without a certificate of registration as provided for by the bill. A person to receive such certificate must have received a degree either of Doctor of Philosophy in psychology, Doctor of Science in psychology, Doctor of Education, or Doctor of Philosophy in education from an approved school, must have had two years' experience in the application of the principles and technics of the science of psychology and must pass examinations to be given by an examining committee consisting of five psychologists. H. 977 proposes to authorize the organization of corporations to operate nonprofit medical service plans whereby medical care or medical and hospital service may be provided by the corporations to those persons who become subscribers to the plans under contracts which entitle each subscriber to stated medical care. Any nonprofit medical plan so established is to entitle each subscriber to select a physician of his own choice.

Massachusetts

Bills Introduced.—H. 2265 proposes to require a physician attending a pregnant woman to take or cause to be taken a sample of her blood at the time of first examination and to submit that sample to a laboratory approved by the department of public health for a standard serologic test for syphilis. H. 2281 proposes to require each party to a proposed marriage, as a condition precedent to obtaining a license to marry, to present a certificate signed by a registered physician who has examined the party. If the physician in making the examination discovers evidence of any infectious disease declared by the state department of public health to be dangerous to the public health, he must inform both parties as to the nature of the infectious disease discovered and the possibilities of transmitting it to the marital partner or to their children. The examination by the physician must include a standard serologic test for syphilis.

Missouri

Bill Amended in the Senate.—S. 342 was so amended in the senate May 15 as to provide that the State Board of Health, which the bill proposes to designate as the agency to handle all funds appropriated for public health by the state or granted for such purposes by the federal government, in carrying out the duties imposed on it in that connection must give equal rights and privileges to all licensed practitioners of any school of medicine or healing recognized by the laws of the state.

New York

Bills Passed.—S. 2255 has passed the assembly and the senate, proposing so to amend the laws relating to the practice of osteopathy as to provide that any licensed osteopath or any applicant for such license "who upon the submission of proper credentials or by examination satisfies the regents that he has received sufficient instruction and training, may be granted the right to use instruments for minor surgical procedures and to use anesthetics, antiseptics, narcotics and biological products." S. 2257 has passed the senate and the assembly, proposing so to amend the insurance code as to permit the organization of cooperative corporations to furnish medical expense indemnity or hospital service to persons who become subscribers under contracts with such corporations.

Pennsylvania

Bill Passed.—S. 1031 passed the senate May 18, proposing to appropriate $20,000 to the Department of Health for the use of the Land Grant College of Pennsylvania to advance research in nutrition for children.

Bills Introduced.—S. 1003 proposes to create a healing art advisory board to advise the Secretary of Health with respect to the administration of the program of medical care to the indigent sick. The advisory board is to consist of one representative selected by each of the following: Department of Welfare, Department of Public Assistance, the Medical Society of the State of Pennsylvania, the state osteopathic association, the homeopathic medical society of the state, the state nurses' association, the state dental society, the state pharmaceutical association and the hospital association of the state. The bill also proposes to require the Department of Health to provide medical care to indigent persons certified by the Department of Public Assistance. S. 788 proposes to appropriate $25,000 to the State Department of Health for the use of the University of Pennsylvania School of Dentistry to carry on research in determining the cause and prevention of dental caries.

Wisconsin

Bills Introduced.—A. 823 proposes to appropriate a sum, sufficient together with moneys to be received by the state as federal aid, to distribute serums and antitoxins free of charge to persons in need of them and unable to afford them. A. 844 proposes to create an interim committee on the cost of medical care to consist of two senators and three assemblymen. This committee is to investigate the general subject of the cost of medical care and the ways and means of lightening the alleged burden thereof.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ADDITIONAL MEDICAL COLLEGE NEWS AND ARTICLES APPEAR IN THE STUDENT SECTION, PAGE 2219.

ALABAMA

Regional Meeting.—At a meeting of the Northwestern division of the Medical Association of the State of Alabama, June 1, the following program will be presented:

Dr. Robert A. Berry, Birmingham, Fistula-in-Ano: Underlying Anatomical Factors.
Dr. Benjamin Hughes Kennedy Jr., Birmingham, Vomiting in Early Infancy.
Dr. Otis E. Marler, Carbon Hill, Abruptio Placenta, with Report of Five Cases.
Dr. James B. McLester, Birmingham, Rational Treatment of Myocardial Failure.
Dr. Lloyd Noland, Fairfield, Management of the Thyroid Patient.

ARKANSAS

Course in Obstetrics.—Dr. H. Close Hesseltine, assistant professor of obstetrics and gynecology, Department of Medicine, Division of Biological Sciences, University of Chicago, will conduct a course in obstetrics in Arkansas in cooperation with the state board of health, U. S. Children's Bureau and the committee on maternal and child welfare of the society. The series of weekly lectures will open in Prescott May 29 to continue for six weeks. Similar programs will be conducted in McGehee, beginning May 30; Jonesboro, beginning May 31; Conway, June 1; Fort Smith, June 2.

COLORADO

Appointments Made to Health and Examining Boards.—Dr. Ray L. Drinkwater, Charles G. Grover, D.D.S., and Attorney Joseph A. Myers, all of Denver, were appointed to six year terms on the Colorado State Board of Health recently. The appointments, as required by law, were confirmed by the state senate before becoming effective. The three new members will succeed Dr. Charles A. Davlin, Alamosa; Dr. Ben Beshoar, Trinidad, and H. C. Dolph, D.D.S., Denver, whose terms had expired. This is the first time an attorney has served as a member of the state board. The two osteopathic members of the state board of medical examiners whose terms had expired, Rodney Wren, Pueblo, and C. Robert Starks, Denver, were reappointed by Secretary of State George E. Saunders. Dr. George R. Buck, Denver, was appointed to succeed Dr. Nolie Mumey, Denver, whose term expired this year. Later Governor Carr reappointed the two osteopathic members but appointed Dr. Orland P. Shippey, Saguache, to succeed Dr. Mumey. The state senate took no action with regard to these appointments as there has been no apparent requirement in the law for senate confirmation of appointments to this board, but the state executive council, by a straight party vote, approved Secretary Saunders' appointments. According to the Rocky Mountain *Medical Journal*, it is the evident intention of state officials to bring about a legal test case, to which Drs. Buck and Shippey would be the nominal parties at suit, to determine where the power of appointment lies under the existing administrative code.

CONNECTICUT

Dr. Clendening Lectures at Yale.—Dr. Logan Clendening, professor of clinical medicine, University of Kansas School of Medicine, Lawrence-Kansas City, delivered the Beaumont lecture on the history of medicine at Yale University School of Medicine, New Haven, April 21. His subject was "Medicine in Paris at the Time of Oliver Wendell Holmes' Visit." Dr. Ernest J. Caulfield, Hartford, president of the Beaumont Medical Club, introduced Dr. Clendening.

DISTRICT OF COLUMBIA

Library Given to Leonard Wood Memorial.—The library of Dr. Earl Baldwin McKinley, who lost his life on the Hawaii Clipper last summer, has been given by his wife to the Leonard Wood Memorial (American Leprosy Foundation), and will be placed in the Culion Library at Culion, P. I., the collection to constitute the "Earl Baldwin McKinley Memorial Library."

Personal.—Dr. J. Winthrop Peabody recently resigned his position as general superintendent of the District tuberculosis hospitals to devote his entire time to private practice.——Dr. Winfred Overholser, superintendent of St. Elizabeths Hospital, Washington, and formerly commissioner of the department of mental diseases of Massachusetts, was voted honorary membership in the Massachusetts Psychiatric Society March 24 in recognition of his many years of work for the advancement of psychiatry in the commonwealth.——Dr. Jefferson Davis Bradfield recently retired as diagnostician in the District health department; he had been connected with the department of psychiatry in the commonwealth.——Dr. Jefferson surgeon general, U. S. Public Health Service, sailed April 12 to attend medical conferences in Paris, Geneva and Scarborough, England; in Paris he attended the meeting of the Permanent Health Office April 23; in Geneva the Conference of the Health Committee of the League of Nations, beginning May 4, and in England he will attend the International Medical Congress, which opens July 1.

ILLINOIS

Dr. Baxter Appointed State Health Director.—Dr. Albert C. Baxter, acting director of the Illinois State Department of Health since the resignation of Dr. Frank Jirka in 1937, has been appointed head of the department, newspapers reported May 4.

Wanted — Unidentified Typhoid Carrier.—The state department of public health is trying to find an unidentified typhoid carrier somewhere in Illinois and thereby avert a possible outbreak of the disease. The state diagnostic laboratory received a specimen for examination for a typhoid carrier May 13 and it turned out to be positive. There was nothing to identify the source of the specimen. The postmark was not legible and the physician who sent the specimen failed to give his own name or that of the patient.

INDIANA

Postgraduate Course.—Indiana University School of Medicine conducted its annual postgraduate course April 10-15. General in scope, the program included clinics and clinicopathologic conferences. The guest speakers included Drs. Julian D. Hart, Durham, N. C., on infections; Morton D. Willcutts, Washington, D. C., subject not announced, and Wyman C. C. Cole, Detroit, "Etiologic Factors in Neonatal Asphyxia."

District Meetings.—Among others, Dr. Willis D. Gatch, Indianapolis, addressed the Second District Medical Society in Bloomington May 24 on "Endometriosis."——The speakers before the Fourth District Medical Society in Columbus May 25 included Dr. Arlie R. Barnes, Rochester, Minn., on "Important Principles in Treatment of Congestive Heart Failure."——Dr. Clinton W. Lane, St. Louis, discussed dermatology before a joint meeting of the Fifth District Medical Society, the Vigo County Medical Society, the Aesculapian Society of the Wabash Valley and the Terre Haute Academy of Medicine in Terre Haute May 5.——At a meeting of the Sixth District Medical Society in Connersville June 7, the speakers will include Drs. Harry V. Scott, Fort Wayne, on "Vomiting in the Newborn and Infancy"; Gerald F. Kempf, Indianapolis, "Newer Aspects of Treatment of Acute Infectious and Contagious Diseases" and William S. Robertson, Spiceland, "Electrocardiography in General Practice."——The Ninth District Medical Society was addressed in Lebanon May 11, among others, by Dr. Cyrus J. Clark, Indianapolis, on "Sulfapyridine in the Treatment of Pneumonia."——Among others, Dr. Howard M. Odel, Rochester, Minn., addressed the Eleventh District Medical Society in Peru May 10 on "Essential Hypertension—Diagnosis and Management."

KENTUCKY

Society News.—Drs. Will R. Pryor and Lytle Atherton addressed the Jefferson County Medical Society, Louisville, May 1 on "Sulfanilamide—Its Value in Infections of the Eye, Ear, Nose and Throat" and "Hydronephrosis" respectively.——Dr. Louis Wallace Frank addressed the Louisville Medico-Chirurgical Society May 12 on "Vitamin K in the Treatment of Upper Gastro-Intestinal Hemorrhage."——Speakers at a meeting of the Louisville Obstetrical and Gynecological Society May 22 were Drs. Henry M. Rubel on "Sulfanilamide in Obstetrics and Gynecology" and Nora D. Dean, "Anesthesia in Gynecology and Obstetrics."——Drs. Elmer L. Henderson,

Louisville, and Oren A. Beatty, Glasgow, addressed the Third District Medical Society, Bowling Green, March 15 on "Hysterectomy" and "Ambulatory Bilateral Pneumothorax" respectively.

Personal. — The McCracken County Health Department dedicated new headquarters in Paducah April 11 to Dr. Van A. Stilley, Benton, honoring his long years of service in the field of public health in western Kentucky. Dr. Carl C. Howard, Glasgow, delivered the principal address. A photomural of Dr. Stilley and a bronze plaque bearing the dedicatory inscription were hung in the building. Dr. Stilley is 72 years old and graduated from the University of Louisville School of Medicine in 1890. He is associate director of county health work for western Kentucky, is councilor for the first district of the state medical association and president of the Bank of Benton.——Dr. Andrew B. Steele, Lewisburg, Pa., has been appointed clinical director of the Western State Hospital, Hopkinsville.——Dr. Walter O. McCammon, Springfield, has been appointed health officer of Washington County to succeed the late Dr. William R. Thompson. —— Dr. Isham Kimbell, clinical director at the Veterans Administration Facility, Lexington, has been transferred to the facility at Gulfport, Miss. ——Dr. Charles M. Smith, Dixon, has resigned as health officer of Webster County.——Dr. James W. Baird, Sadieville, was honored by the Scott County Medical Society with a dinner at Lancaster May 4, marking his fiftieth anniversary of medical practice.

LOUISIANA

State Medical Election.—Dr. Christian Grenes Cole, New Orleans, was chosen president-elect of the Louisiana State Medical Society at its annual convention in Alexandria April 26 and Dr. Clarence A. Lorio, Baton Rouge, was installed as president. Other officers are Drs. Dorman B. Barber, Alexandria, Edwin L. J. Zander, New Orleans, and Jean P. Mauboules, Rayne, vice presidents, and Paul T. Talbot, New Orleans, secretary-treasurer. The 1940 meeting will be held in New Orleans.

MASSACHUSETTS

Personal.—Dr. Curtis T. Prout, formerly of Wallingford, Conn., has been appointed medical director of the Ring Sanatorium and Hospital, Arlington Heights, succeeding Dr. Hosea W. McAdoo. —— Dr. Salomon Gagnon, Waltham, assistant superintendent of the Metropolitan State Hospital, has been appointed chief executive officer of the Boston Psychopathic Hospital; he was succeeded at the Metropolitan by Dr. William Corwin.——A buffet supper and reception was recently given to honor Dr. Marion Nute in recognition of his completion of forty years as a member of the staff of the New England Hospital for Women and Children.

Symposium on Virus and Rickettsial Diseases.—A short course of lectures, clinics and demonstrations on the virus and rickettsial diseases, with special emphasis on their public health significance, will be presented at the Harvard School of Public Health, Boston, June 12-17. The fee for the course will be $25, payable at any time up to June 12. Enrolment should be arranged before June 1, as facilities for many of the clinics and demonstrations are limited. The lectures will be published later in a single volume, which will be sent to each person who registers for the course. Further information may be obtained from the secretary of the school of public health, 55 Shattuck Street, Boston. Members of the symposium committee are Drs. LeRoy D. Fothergill, chairman, Cecil K. Drinker, John E. Gordon, Edward G. Huber, Charles F. McKhann and Philip Drinker, Ch.E.

MINNESOTA

State Medical Meeting at Minneapolis. — The eighty-sixth annual session of the Minnesota State Medical Association will be held in Minneapolis May 31-June 2, under the presidency of Dr. George A. Earl, St. Paul. Out of state speakers will include:

Dr. Rock Sleyster, Wauwatosa, Wis., President, American Medical Association.
Dr. Andrew C. Ivy, Chicago, Bile Salt Therapy in Gallbladder Disease.
Dr. Joseph Stokes Jr., Philadelphia, Studies of Certain Respiratory Infections of Virus Origin.
Dr. Charles L. Scudder, Boston, Fractures as a State Medical Association Problem.
Dr. Everett D. Plass, Iowa City, Treatment of Vaginal Discharges.
Dr. Thomas Francis Jr., New York, Diagnosis of Virus Diseases.
Dr. Robert G. Bloch, Chicago, Unsuspected Pulmonary Tuberculosis.

One feature of the program will be a conference on medical problems in Minnesota with the following speakers: Drs. Clifford E. Waller, U. S. Public Health Service, Washington, D. C.; Frederick W. Jackson, Winnipeg, Man.; William A. O'Brien, Minneapolis, and Monsignor Maurice F. Griffin, Cleveland. Many scientific motion pictures will be shown during the session. The first public health exposition ever sponsored by the state association will open in the auditorium basement Wednesday May 31 and close Saturday June 3. The annual award of the Southern Minnesota Medical Association will be presented at the annual banquet at the Hotel Curtis Thursday evening. Twenty round table luncheons have been planned. The Minnesota Radiological Society will hold a dinner May 31 in honor of Dr. William Edward Chamberlain, Philadelphia, who will deliver the Russell D. Carman Memorial Lecture May 30. His subject will be "Low Back Pain." Dr. Bloch will address the Trudeau Society at a dinner meeting May 31 on "Tuberculous Caseation, Excavation and Calcification."

MISSOURI

Conference for Negro Physicians. — Announcement is made that a conference for Negro physicians, to be known as the Medical Institute for Physicians, will be held annually under the joint auspices of the Tuberculosis and Health Society of St. Louis, the Mound City Medical Forum and the St. Louis Health Department. The first session was held at the Homer G. Phillips Hospital, St. Louis, April 19-21, and covered discussions in the new developments in diagnosis, treatment of tuberculosis and syphilis and child and maternal hygiene. One evening session, open to the public, was a symposium on health and disease.

MONTANA

Changes in State Board.—Dr. George F. Turman, Missoula, was named chairman of the state board of health, succeeding Dr. Enoch M. Porter, Great Falls, at the board's semiannual meeting in Helena April 6. Dr. Louis H. Fligman, Helena, was named vice president.

Personal.—Dr. E. Martin Larson, Great Falls, for many years president of the Montana Tuberculosis Association, was reelected for another one year term at the twenty-third annual meeting of the association in Helena April 8.——Dr. Harry A. Crecelius, Plains, has been appointed physician and health officer of Sanders County, according to the *Journal-Lancet*.

NEBRASKA

Physician Honored.—The Seward County Medical Society and the Sixth Councilor District Medical Society held a dinner in Milford in honor of Dr. and Mrs. Charles W. Doty, Beaver Crossing, April 10. According to the state medical journal, Dr. Doty is the oldest member of the district and has practiced in Seward County since his graduation from Rush Medical College in 1888. Dr. Joseph Morrow, Seward, was toastmaster.

Society News. — The Five County Medical Society was addressed in Wayne April 6 by Dr. Wayland K. Hicks, Sioux City, on "Bladder Tumors" and Dr. Arthur L. Miller, Kimball, member of the legislature, discussed medical legislation. ——Dr. Rex L. Murphy, Denver, addressed the Scottsbluff County Medical Society in Scottsbluff April 13 on "Chest Conditions of Special Interest to the Otolaryngologist."——Drs. Charles W. McLaughlin Jr. and John W. Duncan addressed the Omaha-Douglas County Medical Society April 11 on "The Acute Surgical Abdomen in Infancy and Childhood" and "Diagnosis and Treatment of Esophageal Diverticula" respectively. —— Drs. Arthur D. Munger and Rufus A. Lyman, adddressed the Lancaster County Medical Society, Lincoln, March 7 on "Rational Use of Intravenous Solutions" and "Trends in Professional Education" respectively.

NEW YORK

Outbreak of Gastro-Enteritis.—According to *Health News*, an outbreak of gastro-enteritis in a village in Chautauqua County in March was attributed to failure of the chlorinator to operate during a period of thaw and high water when the source of supply was particularly susceptible to surface pollution. Sixty persons were known to be affected. The onset of illness was sudden and characterized by nausea, abdominal distress and fluid stools. Fever was noticed in about one fifth of the cases. The illness lasted usually from one to three days. All patients recovered.

New York City

The Janeway Lecture at Mount Sinai.—Max Bergmann, Ph.D., member of the Rockefeller Institute for Medical Research, delivered the Edward Gamaliel Janeway Lecture at Mount Sinai Hospital May 16. His subject was "Some Biological Aspects of Protein Chemistry."

Harlow Brooks Memorial Meeting. — The Washington Square Medical Society held its annual Harlow Brooks medical program April 20. Dr. Louis F. Bishop opened the session with "Reminiscences of Dr. Harlow Brooks" and Dr. Lewellys F. Barker, Baltimore, delivered the memorial lecture on "The Diagnosis and Treatment of Vitamin Deficiencies."

Conferences on Tuberculosis—The modern methods of diagnosis and treatment of tuberculosis is the theme of a series of four evening conferences for physicians which opened at the East Harlem Health Center May 11 to continue through June 1. The physicians of the district are invited to bring their own cases and roentgenograms to the conferences for discussion.

Society News.—The New York Diabetes Association held a clinical meeting April 28; the speakers were Drs. John S. Lockwood, Philadelphia, "Treatment of Streptococcus Infections in Diabetes Mellitus with Sulfanilamide"; Frank L. Meleney, New York, "Treatment of Anaerobic Infections in Diabetes Mellitus with Zinc Peroxide," and Valentine M. Murray Wright, Philadelphia, "Diabetic Surgery."

Dr. Park Leaves Bequest for Research.—A fellowship fund for research in medicine, clinical work and bacteriologic and filtrable virus diseases will be established with the residuary estate of Dr. William H. Park, whose will was filed for probate April 10. Dr. Park died April 6. The fund is to continue in perpetuity and is to be called the William Hallock Park Research Fund. Disbursements will be made by a committee composed of the deans of New York University College of Medicine, Cornell University Medical College and Columbia University College of Physicians and Surgeons, Dr. Camille Kereszturi and Dr. Bela Schick. The value of the estate was not determined.

NORTH CAROLINA

Society News.—Dr. Douglas H. Sprunt, Durham, addressed the New Hanover County Medical Society April 20 on "Increased Resistance to Infections Produced by Certain Endocrine Systems."——Dr. Richard M. Pollitzer, Greenville, S. C., among others, addressed the Thermal Belt Medical Society in Marion April 20 on "Pediatric Case Records."——Dr. Julian Deryl Hart, Durham, addressed the Lenoir County Medical Society, Kinston, April 14 on diseases of the parathyroid glands.

Personal.—The Wayne County Medical Society devoted a meeting April 4 in Goldsboro to honoring three members who have practiced for fifty years or more. They were Drs. William H. Cobb and William J. Crawford, Goldsboro, and William G. Sutton, Seven Springs. Dr. Hubert A. Royster, Raleigh, was the principal speaker, reviewing changes in medicine during the past century.——Dr. Millard B. Bethel, Statesville, has been appointed health officer of Cabarrus County, succeeding Dr. John S. Anderson, who resigned.

Asheville Hospital Given to Duke University. — Dr. Robert S. Carroll, founder, owner and medical director of Highland Hospital for nervous and mental disorders, Asheville, has presented the hospital to Duke University, Durham, to be developed as the therapeutic unit of a new department of psychiatry. If at any time in the future the university decides that operation of the hospital in Asheville is not practicable, the property and equipment may be disposed of, but the proceeds therefrom must be used to advance the specialty of psychiatry at Duke. Dr. Carroll will remain the hospital medical director for five years, during which time a gradual interchange of personnel between the institutions will be effected. Highland Hospital, founded in 1904, has a capacity for sixty-five patients. It has three principal buildings, one of which is now being replaced by a stone structure which will have 100 rooms, according to a newspaper account. It is surrounded by fifty acres of specially developed land and 400 acres of mountain woodland, also used by the institution. Included in the gift is Dr. Carroll's residence, which may be used for a faculty residence and assembly hall. Dr. Carroll took medical degrees from Marion Sims College of Medicine in 1893 and from Rush Medical College, Chicago, in 1897. He is 70 years old.

OHIO

New Building at Jewish Hospital.—The dedication of the new building to house the May Institute for Medical Research of the Jewish Hospital, Cincinnati, will take place May 29. Dr. Moses Salzer will preside. Mr. Leo Lehman will present the building to the hospital on behalf of Mrs. David May, and Mr. Maurice E. Pollak, president, board of trustees, will give the speech of acceptance. Dr. Albert H. Freiberg, president of the medical staff, will speak on "Research and Practice in the Hospital"; Dr. Alfred Friedlander, dean, University of Cincinnati College of Medicine, "Truth and Research," and Dr. Anton J. Carlson, professor of physiology, Division of Biological Sciences, University of Chicago, "Science and the Common Life."

PENNSYLVANIA

District Meeting. — The annual meeting of the Seventh Councilor District Medical Society was held in Williamsport April 14. On the scientific program Dr. Russell S. Boles, Philadelphia, made an address on "A Consideration of Functional and Organic Diseases"; Drs. Lloyd G. Cole, Blossburg, and Louis L. Hobbs Jr., Ridgway, "Tumors of the Thyroid Gland." Dr. Rosco G. Leland, Chicago, director, Bureau of Medical Economics, American Medical Association, spoke at the afternoon session on "Current Problems in Medical Care." Other speakers were Drs. David W. Thomas, Lock Haven, president, and Chauncey L. Palmer, Pittsburgh, chairman of the committee on public health legislation of the Medical Society of the State of Pennsylvania; Alexander H. Stewart, deputy secretary, state department of health, and Mrs. Walter F. Donaldson, Pittsburgh, president of the woman's auxiliary of the state medical society.

Pittsburgh

The Bedford Lecture.—The Hon. Samuel B. Pettengill, former Congressman from Indiana, delivered the annual Bedford Lecture of the Allegheny County Medical Society April 27 on "The Citizen's Interest in the Threatened Socialization of Medicine."

Society News.—At the annual meeting of the Pittsburgh Surgical Society at the Mellon Institute May 26 the speakers were Drs. John Stewart Rodman on "Circulatory Problems of Surgical Importance in the Diagnosis of Abdominal Lesions"; Isidor S. Ravdin, "Some Surgical Problems of the Extrahepatic Bile Passages," and Melvin S. Henderson, Rochester, Minn., "Delayed Union and Nonunion in Fractures."

SOUTH DAKOTA

Personal.—Dr. Burt A. Dyar, Pierre, has been appointed full time secretary of the state interallied professional council, which represents the medical, dental, nursing, hospital and pharmaceutical associations. —— The South Dakota Public Health Association has changed its name to the South Dakota Tuberculosis Association.

State Medical Election.—Dr. Oscar J. Mabee, Mitchell, was chosen president-elect of the South Dakota State Medical Association at its annual meeting in Aberdeen April 24-26 and Dr. John C. Shirley, Huron, was installed as president. Dr. Bertrand M. Hart, Onida, was named vice president. The next annual session will be in Watertown. The society decided at the recent meeting to redefine the boundaries of the twelve districts as follows:

District number 1, Aberdeen; McPherson, Marshall, Brown, Edmunds, Faulk and Spink counties.
District number 2, Watertown; Clark, Codington, Hamlin and Duel.
District number 3, Madison; Brookings, Lake, east half of Kingsbury and east half of Miner.
District number 4, Pierre; Ziebach, Armstrong, Potter, Sully, Hyde, Hughes, Lyman, Jones, Stanley, Haakon and Jackson.
District number 5, Huron; Hand, Beadle and west half of Kingsbury.
District number 6, Mitchell; Buffalo, Jerauld, Sanborn, west half of Miner, west half of McCook, Hanson, Davison, Aurora and Brule.
District number 7, Sioux Falls; Minnehaha, Lincoln, and east half of McCook, and Moody.
District number 8, Yankton; Charles Mix, Douglas, Hutchison, Bon Homme, Yankton, Turner, Clay and Union.
District number 9, Black Hills; Harding, Butte, Meade, Lawrence, Pennington, Custer, Fall River, Washington, Shannon, Washabaugh and Bennett.
District number 10, Rosebud; Mellette, Todd, Tripp and Gregory.
District number 11, Northwest; Perkins, Corson, Dewey, Walworth and Campbell.
District number 12, Whetstone Valley; Day, Roberts and Grant.

TENNESSEE

Graduate Course in Internal Medicine.—Vanderbilt University School of Medicine, Nashville, will conduct a graduate course in internal medicine to extend over a period of one year, beginning July 1. Limited to six students, the course will consist of supervised work with patients in the medical outpatient service, including the related specialties; experience in the diagnostic laboratories; assigned reading, seminars and conferences, including pathologic and radiologic conferences and autopsy study; directed study and seminars in the preclinical sciences, particularly physiology and biochemistry. Special investigation of a particular problem in one of the divisions of internal medicine as the basis of a thesis will be required. The course will be open to physicians who have completed an internship, have had an additional year's experience as assistant resident in medicine or its equivalent and are acceptable to the school. Three fellowships are available for this course, providing tuition, board and lodging. Additional information may be obtained from the director of postgraduate instruction, Vanderbilt University School of Medicine, Nashville.

GENERAL

Inspection of Airplanes for Insects.—The U. S. Public Health Service reported in *Public Health Reports* April 7 that 398 aircraft were inspected last year for possible mosquito infestation. Of this number, 187 were harboring dead and live insects of various species. A total of 651 insects were recovered, 166 of them alive. Forty were mosquitoes, but only five were alive. None of the mosquitoes was of a dangerous species. Inspection is carried out on all incoming aircraft from Mexico, South America, the Canal Zone and the West Indies primarily for the purpose of detecting mosquitoes that might carry yellow fever. The airline employees spray the planes to kill insects before landing at any port and on overnight stops the planes are thoroughly sprayed after disembarkation of passengers and crew and the planes are closed for the night. The routine inspections are performed by entomologists of the public health service with a flashlight and a chloroform tube.

Teachers of Sight-Saving Classes.—The National Society for the Prevention of Blindness is cooperating with the following colleges and universities in offering at their summer sessions courses for teachers and supervisors of sight-saving classes:

Western Reserve University, Cleveland, June 19 to July 28.
State Teachers College, Buffalo, N. Y., June 26 to August 4.
State Teachers College, Milwaukee, June 26 to August 4.
University of California at Los Angeles, June 26 to August 4.
Wayne University, Detroit, Mich., June 26 to August 4.

Details may be obtained from the university or college.

Dr. Whipple Wins Kober Medal.—Dr. George H. Whipple, professor of pathology and dean, University of Rochester School of Medicine and Dentistry, Rochester, N. Y., was presented with the George M. Kober Medal at the annual meeting of the Association of American Physicians at its meeting in Atlantic City, May 3. Dr. Whipple is noted for research on metabolism, blood regeneration and treatment of secondary anemias. With Drs. George R. Minot and William P. Murphy, Boston, Dr. Whipple several years ago shared the Nobel Prize in medicine for research on pernicious anemia. The Kober Medal is an outstanding award, endowed by the late Dr. George M. Kober, Washington, D. C.

Special Society Elections.—Dr. Herbert B. Wilcox, New York, was elected president of the American Pediatric Society at its recent annual meeting. Dr. Hugh McCulloch, St. Louis, was reelected secretary.——At the annual meeting of the American Physiological Society in Toronto April 28 Dr. Andrew C. Ivy, Chicago, was elected president, and Philip Bard, Ph.D., Baltimore, reelected secretary.——Dr. Ernest W. Goodpasture, Nashville, Tenn., was chosen president of the American Society for Experimental Pathology at its annual meeting in Toronto April 28; Dr. Shields Warren, Boston, vice president, and Dr. Paul R. Cannon, Chicago, secretary.——At the annual meeting of the American Society for Pharmacology and Experimental Therapeutics in Toronto April 27 Dr. Oscar H. Plant, Iowa City, was designated president. Dr. Gustave Philip Grabfield, Boston, was reelected secretary. Dr. Plant was also elected president of the Federation of American Societies for Experimental Biology and Dr. Donald R. Hooker, Baltimore, reelected secretary.——Dr. Isaac Starr, Philadelphia, was chosen president of the American Society for Clinical Investigation at its annual meeting in Atlantic City May 1 and Dr. Eugene M. Landis, Philadelphia, secretary.

Registration Under Harrison Narcotic Act and the Marihuana Tax Act.—On or before July 1, every physician registered under the Harrison Narcotic Act or under the Marihuana Tax Act, or under both, must reregister with the collector of internal revenue of each district in which he maintains an office or a place for the treatment of patients. Failure to reregister within the time allowed by law adds a penalty of 25 per cent to the annual tax payable at the time of registration and in addition makes the physician in default liable to a fine not exceeding $2,000, or to imprisonment for not exceeding five years, or to both. The Commissioner of Internal Revenue has been lenient in the past in enforcing the criminal penalties for tardy registration but continued disregard on the part of some physicians of the requirement with respect to reregistration will inevitably lead to criminal prosecutions. In recent years the commissioner has given some negligent or recalcitrant physicians the choice between paying substantial sums by way of compromise in lieu of the penalties for their offenses or, as an alternative, accepting criminal prosecution with resultant publicity and liability to fines and possible imprisonment. This was an act of grace on the part of the commissioner; he might have instituted criminal prosecutions without allowing the offending physicians any choice in the matter. If the course that the commissioner has adopted does not produce the desired promptness in registration, he will have no recourse other than criminal prosecution.

Gastro-Enterologic Meeting.—The fourth annual convention of the National Gastroenterological Association will be held at Squibb Hall, New York, June 1-2, under the presidency of Dr. Anthony Bassler, New York. The speakers will include:

Drs. John Stewart Rodman and William G. Leaman Jr., Philadelphia, Role of Circulatory Disorders in the Diagnosis of Lesions of the Gastrointestinal Tract.
Dr. James J. Hepburn, Boston, A Consideration of the General Problem of Gastric and Duodenal Ulcer.
Dr. Hubley R. Owen, Philadelphia, Causes of Poor Results in the Operative Treatment for Duodenal Ulcer.
Dr. Samuel A. Loewenberg, Philadelphia, The Anemias versus Gastrointestinal Disease.
Drs. Isidor S. Ravdin and Jonathan E. Rhoads, Philadelphia, The Control of Hemorrhage in the Jaundiced Patient.
Drs. Max Einhorn and Otto C. Pickhardt, New York, Report of a Case of Segmental Jejuno-Ileitis.
Dr. Charles L. Brown, Philadelphia, Disorders of Calcium Metabolism in Diseases of the Gastrointestinal Tract.
Dr. Frank W. Konzelmann, Philadelphia, An Evaluation of Liver Function Tests.
Dr. George W. Papen, Boston, Conservatism in Surgery of the Pancreas.
Drs. John F. McCloskey and James A. Lehman, Philadelphia, The Surgical Management of Acute Cholecystitis.
Dr. Bernard Fantus, Chicago, The Therapy of Colon Stasis.
Dr. Ellis B. Freilich, Chicago, Gastrointestinal Tuberculosis.
William Walter Cort, Ph.D., and Gilbert Fred Otto, Sc.D., Baltimore, Immunity in Hookworm Disease.
Dr. Myer Solis-Cohen, Philadelphia, Gastrointestinal Disturbances Due to Bacterial Toxemia from Focal Infection.
Dr. Cyrus W. Strickler, Atlanta, Ga., Congenital Bands and Adherences—Symptomatology and Treatment.
Dr. Moses Behrend, Philadelphia, Primary and Recurrent Obstruction of the Common Duct.
Drs. Isaac R. Jankelson, Boston, and Samuel Morein, Providence, R. I., Complications of Diaphragmatic Hernia.
Dr. George G. Miller, Montreal, Canada, Demonstration of Gastric Resection (motion picture).
Dr. Bela Halpert, New Orleans, Gallbladder Disease and Gallstones (by title).

On Wednesday May 31 the first of a series of annual lectures will be delivered at a reception in the Professional Building, New York World's Fair, by Dr. Max Einhorn, New York, on "The Behavior of the Physician Toward His Patient and His Profession."

Association for Advancement of Science.—The American Association for the Advancement of Science will meet in Milwaukee, June 19-24. The program for the Section on Medical Sciences (N) at Marquette University School of Medicine will include thirty-three papers, constituting a symposium on the gonococcus and gonococcic infections sponsored by the American Neisserian Medical Society and Section N. Among the speakers will be:

Dr. Elston L. Belknap and Margaret C. Perry, Milwaukee, Correlation of Clinical Findings with Results from Over 800 Quantitative Lead Examinations of Urine.
Dr. Armand J. Quick, Milwaukee, The Prothrombin Concentration in the Blood of Newborn.
Dr. Michael Wishengrad, New York, Biological Preparations for the Treatment of Gonococcic Infection.
Dr. Wesley W. Spink, Minneapolis, Pathogenesis of Gonococcic Infection.
Drs. Oscar F. Cox Jr. and William A. Hinton, Boston, Evaluation of Smear and Cultural Methods for Detecting the Gonococcus in Males Treated with Sulfanilamide.
Dr. Sara E. Branham, Washington, D. C., Gonococcic Meningitis.
Dr. Ralph R. Mellon and Lawrence E. Shinn, Ph.D., Pittsburgh, Pa., The Mode of Action of Sulfanilamide with Special Reference to Its Anticatalase Property.
Dr. Russell D. Herrold, Chicago, Comparative Efficacy of Sulfanilamide and Sulfapyridine in the Treatment of Gonococcic Infection.

Foreign Letters

LONDON

(From Our Regular Correspondent)

April 29, 1939.

Antitoxins Prepared for War Use

At the request of the government the Medical Research Council has made arrangements to provide antitoxins in a quantity sufficient to insure their continued supply in the event of war.

TETANUS ANTITOXIN

Tetanus antitoxin has been provided for both prophylactic and therapeutic use. The prophylactic dose is 3,000 international units (1,500 American units) and is contained in a volume not exceeding 3 cc. During the early part of the great war 500 American units was administered as a routine and produced a striking effect in reducing the incidence of tetanus. During the later stages of the war attempts were made to reduce further the low incidence of tetanus by repeating the dose or increasing it. Since the war the tendency has been to administer 1,000 and, more recently, 1,500 American units. It has been decided that if the prophylactic use of tetanus antitoxin is again required, the dose shall be at this higher level of 1,500 American units. For the treatment of tetanus, ampules of antitoxin containing not less than 10,000 American units in a volume not exceeding 8 cc. have been prepared.

GAS GANGRENE ANTITOXIN

While it is generally recognized that early and adequate surgical treatment is the most important measure in the treatment of gas gangrene, opinion is divided as to the value of antitoxin in the prophylaxis and treatment. It is generally regarded as an accessory to surgical treatment. There are difficulties in the production of antitoxin arising from uncertainty as to the spore-bearing anaerobes concerned and doubt as to whether the predominating organism is the same in urban as in rural districts and whether the antitoxin should be given to all casualties or restricted to those which war experience has shown are likely to have gangrene. Moreover, little is known as to the proper dose. In civil life the infection is more often due to the Welch bacillus than to other anaerobes, such as vibrion septique and Clostridium oedematiens.

Stocks of Welch bacillus, vibrion septique and Clostridium oedematiens antitoxins have been acquired which are considered to be adequate for the needs of both the defense services and the civil population, for both prophylaxis and treatment. Modern preparations of gas gangrene antitoxin are of greater potency than those used in the great war. The arrangements made allow for administration of the antitoxins separately or combined, and the injection can be combined with tetanus antitoxin. The provisional doses (which may be modified in the light of experience or to meet special circumstances) are 3,000 units of Welch bacillus, 1,500 of vibrion septique and 1,000 of Clostridium oedematiens antitoxin, respectively, as a combined injection for prophylaxis. For treatment the dose is two and one-half times as great.

The Epidemiology of Jaundice

At the Royal Society of Medicine Dr. E. R. Cullinan, opening a discussion on the epidemiology of jaundice, said that two forms of infective jaundice, Weil's disease and common infective jaundice, were seen in this country. The former, defined by Weil in 1886, was still relatively uncommon, less than 200 cases having been reported in Great Britain. The disease in human beings could almost always be traced to rats, the organism entering through cuts and sodden skin or perhaps through the conjunctiva and upper respiratory tract. Early diagnosis was essential, as antiserum was valuable in the first stage. There were mild infections without jaundice characterized by fever and malaise, and the disease should be suspected if the patient's occupation brought him into contact with rats.

Common infective, or catarrhal, jaundice was widespread; apparently catarrhal types were seen. Its cause was unknown. In the last twelve years 1,707 outbreaks, widely scattered, were reported in this country. Infectivity was low and incubation long. Children from 6 to 10 years old were peculiarly susceptible. There were often a prodromal period of lassitude and malaise and a sharp febrile onset without rigor. Early headache, anorexia, nausea and abdominal pain were common, and vomiting was often severe. Jaundice appeared at any time up to twelve days after the onset, first in the conjunctiva and then in the face and neck. It usually heralded the beginning of convalescence, but in cases of severe involvement might last three weeks or longer. In adults the liver might be 3 finger-breadths below the ribs. If histamine was injected and a piece of glass pressed on the resulting wheal, 1 van den Bergh unit (or more) of bilirubin in the blood would be revealed by a yellow color in the center. The eye could not detect less than 4 units. The stools were usually clay colored at some time but often contained bile during the jaundice.

The disease spread from person to person and not by water, milk or food. The family and dormitory spread suggested droplet infection. Infectivity was high only when contact was close. The period of incubation was difficult to assess but approximated from twenty-one to thirty-five days. Patients were infectious before they were jaundiced, but the period of infectiousness was short. The pathologic process was probably necrosis of liver cells, but fatal cases were rare. In Sweden epidemic jaundice seemed to have taken the form of acute necrosis of the liver. Subacute necrosis, unassociated with any drug or toxin, was by no means unknown in England. The bile epithelium was seldom destroyed, and there was no evidence of obstruction or inflammation of the bile ducts. The similarity to common infective jaundice suggested a common cause.

PARIS

(From a Special Correspondent)

April 22, 1939.

A Gas Mask for Infants

Dr. Le Mée and his collaborators have produced a device which permits the protection of young infants against war gas. The child is placed in the ordinary inspirator with a person provided with an isolating or filtering mask. A trough of zinc lined with cork receives the child, whose head is covered by a metallic arch. This is enclosed in a sac of impermeable fabric which has a window, through which the child can be watched. Of two connections, one receives the filtering cartridge of the mask and the other the tube of the mask. The aspirating movement of the wearer of the mask causes a current of air which passes through the sac enclosing the child; the expiration expels the vitiated air through the valve of the mask. If necessary the apparatus can be connected with a small oxygen tank, which enriches the air of the common atmosphere of the two persons utilizing the single mask. If, instead of the filtering mask, the isolating mask, with regeneration of air, is used, the same couplings can be arranged so as to connect the sac containing the child in the common circuit. The invention of Dr. Le Mée seems to have solved in a simple manner the difficult problem of safeguarding young infants against war gases.

Postage Stamps to Aid Venereal Disease Campaign

The board of administrators of the national post office department put on sale this year, as it did last year, a stamp to obtain money for the League of Public Morals and for the prevention of venereal diseases. The stamp portrays a woman, who stands for the republic, with an infant, who stands for the race, in her

arms and contains the inscription "Saving the Race." The value of each stamp is 90 centimes (9 cents), which is the postage of any letter in the country and the colonies plus a tax of 30 centimes (3 cents) for the league. One million stamps were sold last year.

National Congress of Tuberculosis

The work of the National Congress of Tuberculosis held at Lille April 11-13 was divided according to the subjects biology, clinical medicine, social medicine and miscellaneous matters. The biologic section was devoted to the study of the role and distinctive characteristics of tuberculous infection due to the bovine bacillus and the avian bacillus. In 11.2 per cent of 100 cases of human tuberculosis the infection was found to be of bovine origin. The highest percentage of tuberculosis of this origin was found in Scotland. It is rare in France, where milk is boiled as a rule. The clinical section was devoted to the purulent exudates of therapeutic pneumothorax and their treatment. Three categories were examined: (1) The puriform effusions, through aging, to which belong the cold pleural abscess and the bacteriologically infected effusions, (2) malignant pyothorax and (3) the septic pleurisies. Complications can be avoided by performing the pneumothorax as early as possible and by intrapleural chrysotherapy. For treatment, to the evacuation followed by lavages with iodized solutions, the use of vaccines, anatoxin and, above all, sulfamide compounds should be added. In case medical treatment fails, surgical treatment should be applied. Simple pleurotomy, proposed by Robert Monod, was debated. On the whole the debates were rich in ideas and documentation but were somewhat confused. This circumstance seemed to indicate room for further study of the question of empyemas. The work in social medicine was devoted to antituberculous prophylaxis through systematic community surveys.

Prevention of Malaria

Professor Marchoux, in a lecture at the Académie de médecine, discussed the prevention of malaria in Tunisia, where the disease is a menace. He considered only the disease itself and the treatment of patients and not the campaign against the anopheles, which was carried out at the same time by classic methods. He had studied particularly the "return" from the medicaments employed, that is the relation between the expense and the results obtained.

For five years, under controlled conditions, synthetic antimalaria drugs, for example "prémaline" (atabrine 0.1 Gm., quinoline 0.005 Gm. and plasmochin 0.005 Gm.), were administered twice a month to a yearly average of 27,000 patients of both sexes and of all ages. The results, calculated by means of antimalaria indexes, i. e. the number of parasites in the blood and the size of the spleen, were satisfactory. From 1936 to 1938 the index of plasmodia diminished from 4.3 to 0.1 per cent. The splenic index in children diminished from 67.0 in May and 33.4 in October 1936 to 9.9 and 1.3 for the same months in 1938. No phenomena of intolerance were observed. This part of the antimalaria campaign cost from 13 to 15 francs ($1.30 to $1.50) per patient, and it was concluded that the region, formerly much contaminated, was now one of the most healthful of countries. But, as with all methods based on therapeutics, this form of treatment does not render unnecessary those measures which are designed to destroy the anopheles and drain the land.

Neurosurgery

Prof. Clovis Vincent, appointed to the chair of neurosurgery which was recently established at the Faculty of Medicine of Paris, in his inaugural speech discussed the development of neurosurgery. He deplored the fate of patients of sixty years ago who suffered from tumors of the brain or spinal cord, as death without relief awaited them. The same fate was in store for patients suffering from facial neuralgia. The field of neurosurgery is not yet entirely satisfactory. Constant collaboration between physicians and neurosurgeons is important. The speaker called attention to the work of Macewen, who in 1879 performed the first operation in a case of tumor of the frontal lobe. But the founder of the science was Cushing, who devoted his life to the development of neurosurgery.

Experimental Adenomas of the Prostate

Prostatic adenomas have been said to be due to hormonal disequilibrium caused by testicular deficiency or by a disturbance of balance between the male and female hormones. Senility exhausts the first, and the second, the estrogenic hormones, thereafter without counterpart, provoke hypertrophy of the prostate.

Petit, Gley and Béraut investigated the effect of injections continued for from twelve to fifteen days of estrogen. These investigations, made on twelve dogs from 2 to 2½ months of age, as well as on controls, demonstrated an intensification of the activity of the urethral epithelium, on which the prostate depends embryologically, with intense budding and adenomatous formation in this small gland, which ordinarily doubles in volume. This augmentation was ascribable especially to the interstitial framework, but its significance remained distinctly adenomatous. The process was rapid but not lasting; it completely regressed as soon as the injections were omitted. The utricle did not seem to have been modified.

Excellent photomicrographs illustrate this work, which was presented at the Société médicale des hôpitaux of Paris. They show that the prostate accelerates its development until occasionally it acquires its characteristic structure and this development becomes in a way comparable to that of the adenoma. The authors point out that one cannot expect to produce in fifteen days a true prostatic adenoma but that it is important to have verified the isolated action of estrogen on an essentially male organ.

BERLIN

(From Our Regular Correspondent)

April 3, 1939.

More Changes Affecting Medical Practice

Among the interesting changes affecting medical practice which have been reported recently are the measures taken to "secure the economic existence of physicians representing workingmen's associations." According to explanations by Reichs-Aerzteführer Dr. Wagner (deceased), when these measures were promulgated, the workingmen's group physician has duties that are not governed by definite hours of work. He can perform these strenuous duties only if he keeps himself physically fit and efficient. Everywhere in Germany the principle is in effect that every one at work receives a leave of absence for which he continues to be paid. Every physician should likewise be obliged to relax completely at least once a year and take leave of absence. Many physicians in the past had to forego a leave of absence because they could not afford either the loss of income or the expense of a substitute during their absence. Wagner said "Since Jews have been eliminated from the medical profession and consequently from participation as representatives of workingmen's associations, Germany's national organization of workingmen's group physicians can now devise new ways of distributing medical fees." Also during illness the necessity of making both ends meet caused many physicians in the past grave cares. In different parts of the country different ways have been tried in the past to solve this difficulty. These attempts, however, were not satisfactory. New decisions provide compensation for physicians connected with workingmen's associations for loss of time and income, and a minimum income for workingmen's group physicians.

Compensation will be paid if the physician interrupts his practice on account of leave of absence, illness, military service

or participation in postgraduate work. The maximum number of days for which a fee will be allowed for leave of absence within a year is twenty-eight. The daily fee paid to the single physician is 12 marks and to the married physician 15 marks plus 1 mark for every child under the age of 21 years supported by the father. Compensation is allowed for sickness if the physician has not been able to practice his profession for more than twelve consecutive days. A medical certificate of another physician is necessary. Examination by an expert can also be required before compensation for sickness is paid, the expense being assumed by the society of workingmen's group organizations. The sick physician must certify that he did not practice even occasionally during the time for which he asks compensation. Compensation for sickness is granted within the same calendar year for as many as eight weeks at the same maximum level as compensation for leave of absence. In case of military duties that prevent the physician from practicing his profession for more than seven days, the single man is paid 7 marks daily and the married man 10 marks, besides 1 mark for every child. Twenty-eight days is the limit. Compensation is also paid for participating in obligatory postgraduate work. These special fees, exclusive of those for postgraduate studies, are paid only to physicians whose income from group practice among workingmen has averaged 500 marks during the last four years.

Physicians admitted to practice in connection with workingmen's groups are guaranteed a minimum income of 1,000 marks quarterly in the form of an increase of group fees if their income is less than that. In these calculations the physician's entire income is computed, that derived from the different policyholders, including the income from benefit bureaus. All other income of the group physician and his wife is also figured, irrespective of its source. However, 500 marks of this income is not included in the computation. This increase of fees is granted only on special request. These regulations concern especially physicians who, on account of increasing age, cannot engage in group practice to the same extent as their younger colleagues. They also concern physicians who for other reasons have a small practice but who are obliged to hold themselves ready to serve and to make available the necessary arrangements for medical practice like other group physicians under more favorable economic conditions.

Another institution belongs in the same picture—the family adjustment fund. It was established in 1934, when the distribution of the entire compensation for group practice was transferred to the association of group physicians. This fund concerns itself with the payment of increases for physicians' children under the age of 21 years the amount of 50 marks a month beginning with the third child. At the same time, an adjustment fund for areas of economic distress was created. Out of this fund the fees of group physicians who practice in regions of great economic need without being able to assure their own economic subsistence from their medical income are increased to 6,000 marks annually.

These new measures are of a nature to influence greatly in the long run the economic life of the medical profession, since later on the question must be considered to what extent the private practice of physicians is to be taken into account in view of the principles set forth. The changes now affect only about 37,000 group physicians of the old reich; for their extension to Austria and the Sudetenland the necessary organization has not yet been effected. Perhaps they will serve beyond their present scope as patterns for other professions. The urgent need for the two adjustment funds mentioned is shown by the official report of the conditions of the rural sick fund. The increases referred to were obviously restricted to localities in which a physician could not maintain himself because of the small population. By means of the increases it was made possible not only to fill a large number of medical positions which otherwise would have remained vacant but also to preserve them. For example, in 1938 nine physicians in Baden, thirty-six in Bavaria, six in Mecklenburg, twenty-six in Lower Saxony, eighteen in East Prussia and twenty-three in the Rhineland received extra allowances of this kind. Since its inception, this adjustment fund has paid out more than 1 million marks to rural physicians in sparsely settled regions. At present more than 300,000 marks is annually paid for this purpose. Only in this way was it possible to prevent physicians from moving away from the country and permanently to improve the medical service of rural areas. These measures must also be based in the future on the assumption that the benefits of this fund are limited to those who are unable to bear the medical costs themselves. Efforts to include the whole rural population in this sick insurance are not officially approved.

What Dr. Wagner himself said about the ideals of the family physician is of interest. The ideal conception of the family physician is perhaps set by the family physician of former days, who was well informed not only in the methods of medicine taught at school but in the natural art of healing and who was likewise the leader, counselor and friend when the patient did not need his medical services. It is the duty of such a physician not only to cure his patient physically but to guide him mentally according to the principles of Nazi "weltanschauung." (Formerly it was unheard of for the physician to be active politically with his patients.) The patient is to remain free to choose his physician, but the aim is that every one register for the period of a year with a definite physician. The physician would be interested no longer in an individual achievement but in having as few sick patients as possible in families thus registered. He would be paid no longer for treating the sick but for keeping them well. The healthiest and happiest nation is not the one that has the finest and largest hospitals and similar institutions, but the one that needs the fewest hospitals because the physician takes prompt measures to prevent sickness. The new type of family physician is therefore essentially different from his predecessor. Not only the family by itself but the social environment must be known in order to understand the disease and the necessary healing methods. With these questions the good old family physician surely had nothing to do.

Besides, the demands made in Germany today by the economic conscription of manpower and by a political science with a socialistic ideology have set the physician new tasks. If, as is now the case, every worker is actually employed, it is doubly difficult for the physician to strike a proper balance between the necessary recreation of the worker and the urgency with which the work needs to be done. At the same time, the efficiency of the worker is to be heightened in accordance with an expressly promulgated objective of medical leadership and consolidated labor and preserved to a higher age level. Inspection of managements, the inclusion of the physician in vocational guidance, medical welfare in Nazi organizations, inspections of villages, all the preventive measures and the health pedigrees that have been partly planned and partly put in force all show the numerous and extraordinarily intensive demands made today by the state on the practice of the German physician. He receives more than ever before stimulation and general directions from headquarters. To his enlarged duties have been added enlarged rights and claims, such as leave of absence and compensation for sickness, rights which are administered by his own professional organization. These are clear signs that the medical profession is being made secure in public law.

That the measures which prohibited Jewish physicians with few exceptions from continuing practice after Oct. 1, 1938, would lead to a shortage of physicians could be foreseen. Emergency steps were taken. Official statements to the contrary, there is a shortage of physicians, for example in Berlin, where on Oct. 1, 1938, about 1,600 Jewish physicians were notified to cease practicing. The remaining Jews, in spite of their best intentions, are unable to give the great number of group patients the proper

attention. On the other hand, the fees charged private patients have been increased. There are said to be physicians who demand two and three times the fee formerly charged. In view of this serious situation, one hears occasionally the prophecy that the authorities will have no other choice than to recall the Jewish physicians. This seems improbable, if for no other reason than because the proponents of radical anti-Semitic measures are still powerful.

The few Jewish physicians who have been permitted to practice among Jewish patients may no longer call themselves physicians. A specialist in surgery, for example, must now designate himself as "Jewish specialist for surgery" (Jüdischer Fachbehandler für Chirurgie); in addition he must affix on each letterhead and prescription the stamp "Eligible to treat only Jews."

Another news item concerns hospital nuns. In one of the largest hospitals in Vienna notice was given to all such nuns, some of whom had been active for a few years and others for decades. Their places will be taken in the near future by members of the Nazi girls' clubs. As many girls as possible are speedily to learn nursing.

BELGIUM

(From Our Regular Correspondent)

April 12, 1939.

Medical Inspection and Health Passbooks

The regulations of mutual life insurance companies and the control of the health of adolescents require that an individual health passbook be kept by every one affected as well as by school children subject to medical school inspection. To unify these different functions, a royal decree has been signed authorizing a complete reorganization of the regulations. The school principal, the teacher and the nurse are to see to it that every one on entering is provided with a health passbook, which will be issued by the minister of the interior and public health and must be used by the person all his life. It may be set up, if the parents desire it, by a physician of their choice and at their expense. It is the property of the one whose name is inscribed and must be preserved by his family. The medical inspectors have a file which they keep and in which they note, besides the notations of the passbook, the instructions which they deem useful. For the records of the minister of the interior and public health they fill out blanks furnished by this department, and these remain confidential. Primary school inspectors and the teaching staff will be furnished by the medical inspector with the needful directions. This inspector will also furnish the pupil with useful instructions compatible with medical information of a confidential nature. Enough copies of the health passbook are furnished school principals by the minister of the interior and public health, on request and at the expense of community bureaus.

Insulin for the Treatment of Schizophrenia

H. Baonville, J. Ley, A. Titeca and J. Titeca made known before the Société de médecine mentale de Belgique the results of a year's insulin treatment of schizophrenic patients at the Neuropsychiatric Center of Brussels. The publication has aroused great medical interest because the results appear encouraging, and the experiment deserves to be continued. This study deals with fifty-four cases of schizophrenia in the hebephrenic, catatonic and paranoid forms treated daily for a period of three months from June 1937 to June 1938 by the insulin shock method, with the regular induction of a profound hypoglycemic coma. The cases in which the clinical picture showed cyclothymia or might be interpreted as a period of delirium secondary to mental degeneration or debility were rigorously excluded. The authors checked their diagnosis by a comparison with the proportion of patients with a diagnosis of schizophrenia, of whom annually a total of 400 are admitted to the clinic and have been treated there for at least two months during the preceding years.

The fifty-four cases are divided into three groups: (1) those in which the disease represented an evolution of less than one year (twenty-two cases), (2) those in which the disease indicated an evolution of from one to two years (fifteen cases) and (3) those representing more than two years (seventeen cases). The favorable results include complete clinical cure as well as improvement sufficient to permit the patient to return to normal life. The failures comprise slight or no improvement. There were seventeen favorable results and five failures in the first group, six favorable results and nine failures in the second and two favorable results and fifteen failures in the third. The best results were obtained in cases of paranoidism and hallucinations.

Lead Poisoning

In the session on studies of occupational diseases organized by the Union of French Metallurgic and Mining Industries, Dr. M. A. Langelez discussed the question of chronic poisoning in Belgium. Of 511 cases of occupational diseases observed in the last ten years, 369 were of lead poisoning. This condition, the author states, has undergone considerable modification for some years, both in its symptoms and in its evolution, because of our exact knowledge of the first indications, such as lead in the blood and urine, stippling in the erythrocytes, changes in the leukocytes, the lead line in the gums and nervous troubles. One can now avoid the serious consequences, particularly paralysis and encephalopathic disorders. Under certain circumstances, when ordinary means of prevention are clearly insufficient, utilization of the dangerous products must be prohibited. In Belgium, notably lead-containing enamels caused chronic lead poisoning.

Flemish Academy of Medicine

The *Belgian Monitor* has published a royal decree relative to the organization of a Flemish Academy of Medicine. Its purpose is, first of all, to answer, in cooperation with the Royal Academy of Belgium, questions submitted by the government and then to keep abreast with all the studies and researches that might contribute to the progress of medicine. The academy will consist of forty active members. The first fifteen will be chosen by the king and, in turn, elect the remaining. Also the academy will have the power to nominate honorary and corresponding members.

Marriages

FRANCIS CLIFFORD NESBIT, Atlanta, Ga., to Miss Anne Geraldine Nolan of Oklahoma City, in Decatur, Ga., April 12.

DOROTHY H. CHENEY, Newburyport, Mass., to Mr. Daniel Randolph Appleton of Kingston, February 25.

MAURICE EMANUEL SCHEETZ, La Fayette, Ohio, to Miss Alma Jones of Des Moines, Iowa, April 20.

JAMES CLARENCE GRIFFIN, Tampa, Fla., to Miss Mary Quinn Doke of Memphis, Tenn., April 24.

JAMES PAUL PROUDFIT, Washington, Pa., to Miss Jane Marie Sybert of Portage, April 15.

JAMES B. WALLER, Decatur, Ill., to Miss Esther Behnke of Whittemore, Iowa, in April.

FREDERICK CHRISTOPHER to Miss Dorothy Watt, both of Evanston, Ill., May 19.

SILVIO ERRICO to Miss Marguerite E. De Greve, both of Moline, Ill., May 4.

ANGELO LAPI, Canton, Ohio, to DR. K. RUTH MERRELL of Massillon, April 18.

HAROLD G. NIX to Miss Jean Gilmer, both of Tampa, Fla., April 15.

Deaths

Harry Elmer Peterman ✠ Baltimore; Baltimore Medical College, 1895; member of the American Academy of Ophthalmology and Oto-Laryngology; fellow of the American College of Surgeons; ophthalmic and aural surgeon to the South Baltimore General Hospital; visiting ophthalmic and aural surgeon to the Maryland General Hospital; consulting ophthalmologist and otologist to the Frederick City (Okla.) Hospital; aged 67; died, February 25, of heart disease.

Cyrus Long Pershing, Denver; Columbia University College of Physicians and Surgeons, New York, 1908; associate member of the Colorado State Medical Society; formerly assistant professor of neurology at the University of Colorado School of Medicine; formerly superintendent of the State Home and Training School for Mental Defectives, Ridge, Colo.; served during the World War; aged 70; died, February 8, in the Fitzsimons General Hospital of coronary sclerosis.

Charles Fitzgerald, New Haven, Conn.; University of Vermont College of Medicine, Burlington, 1898; member of the Connecticut State Medical Society; veteran of the Spanish-American War; aged 62; on the staff of the Hospital of St. Raphael, where he died, February 9, of cerebral thrombosis, bronchopneumonia and hypostatic pneumonia.

James Robert Bolton, Beacon, N. Y.; University of the City of New York Medical Department, 1886; member of the Medical Society of the State of New York; on the staff of the Highland Hospital, Beacon, and on the advisory staff of the Vassar Brothers Hospital; aged 79; died, February 24, of valvular disease of the heart.

William Henry Hunsberger, Pennsburg, Pa.; Jefferson Medical College of Philadelphia, 1893; member of the Medical Society of the State of Pennsylvania; on the staffs of the Sacred Heart Hospital, Allentown, and the Jefferson Hospital, Philadelphia; aged 69; died, February 21, of coronary thrombosis and chronic myocarditis.

George Campbell Mizell ✠ Atlanta, Ga.; Atlanta College of Physicians and Surgeons, 1901; at one time associate professor of physiology and gastrointestinal diseases at his alma mater; on the staff of St. Joseph Infirmary; aged 62; died, February 4, of acute cardiac decompensation, arteriosclerosis and chronic interstitial nephritis.

George H. Humphreys, Brockway, Pa.; College of Physicians and Surgeons, Baltimore, 1896; member of the Medical Society of the State of Pennsylvania; for many years president of the school board, and county coroner; aged 74; died, February 10, in the Elk County General Hospital, Ridgway, of carcinoma of the liver.

Frederick Dorr Carr ✠ Batavia, N. Y.; University of Vermont College of Medicine, Burlington, 1908; for many years city bacteriologist and member of the board of health; medical director of the Genesee County Laboratory; aged 56; on the staff of the Batavia Hospital, where he died, February 12, of coronary embolism.

Thomas Woodburn Paton, Ypsilanti, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1902; member of the Michigan State Medical Society; on the staff of the Beyer Memorial Hospital; aged 67; died, February 10, in the University Hospital, Ann Arbor, of pneumonia and heart disease.

Edward Samuel Amsler ✠ Rochester, N. Y.; University of Pennsylvania Department of Medicine, Philadelphia, 1906; aged 57; on the staffs of the Park Avenue Hospital and the Rochester General Hospital, where he died, February 5, of gangrene of the legs, coronary thrombosis and embolus in the abdominal aorta.

Abraham Louis Metz, New Orleans; Medical Department of Tulane University of Louisiana, New Orleans, 1893; professor emeritus of chemistry and toxicology at his alma mater; formerly city and state chemist; aged 75; died, February 10, in a hospital at Tucson, Ariz., of cardiac disease and bronchopneumonia.

Monroe Abraham Meyer ✠ New York; Cornell University Medical College, New York, 1916; member of the American Psychoanalytic Association, American Psychiatric Association and the American Psychopathological Association; aged 46; was found dead, February 27, of self-inflicted stab wounds.

Asa Lee Pattee, Falmouth, Mass.; Eclectic Medical Institute, Cincinnati, 1895; formerly member of the board of health and state legislature; on the staff of the Barnstable County Sanatorium, Pocasset; aged 69; died, February 25, in St. Anthony's Hospital, St. Petersburg, Fla., of hypertensive heart disease.

Edwin C. M. Hall, New Haven, Conn.; New York Homeopathic Medical College, New York, 1883; at one time secretary of the Connecticut Homeopathic Medical Examining Board; on the staff of the Grace Hospital; aged 80; died, February 4, of myocarditis, endocarditis, nephritis and prostatitis.

Frederick Eft, Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1892; member of the Medical Society of the State of Pennsylvania; formerly on the staffs of the Pennsylvania Hospital and St. Vincent's Hospital; aged 75; died, February 7, of cerebral hemorrhage.

Charles Edward Allison ✠ Williamsport, Pa.; Jefferson Medical College of Philadelphia, 1899; past president of the Northumberland County Medical Society; served during the World War; president of the bank of Elysburg; aged 67; died, February 19, of carcinomatosis.

Ludwig Francis Lubeley, Denver; John A. Creighton Medical College, Omaha, 1910; member of the Colorado State Medical Society; aged 54; died, February 23, in St. Joseph's Hospital of gas gangrene of the right arm and shoulder, influenza and acute enterocolitis.

Clyde C. Phillips, Charlotte, N. C.; North Carolina Medical College, Charlotte, 1912; member of the American Roentgen Ray Society and the Radiological Society of North America; aged 48; was killed, February 11, when his shotgun was accidentally discharged.

Jean Sears Millard ✠ Akron, Ohio; Harvard University Medical School, Boston, 1910; on the staff of the People's Hospital; medical director of the Goodyear Tire and Rubber Company; aged 62; died, February 24, in Phoenix, Ariz., of cerebral hemorrhage.

Charles Aloysius Coll ✠ Philadelphia; Medico-Chirurgical College of Philadelphia, 1908; veteran of the Spanish-American and World wars; aged 63; died, February 23, in the United States Naval Hospital, of bronchopneumonia, heart disease and chronic cholecystitis.

Anne Walter Fearn, Shanghai, China; Woman's Medical College of Pennsylvania, Philadelphia, 1893; established a sanatorium bearing her name; author of "My Days of Strength"; aged 68; died, April 28, in Berkeley, Calif., of heart disease.

Marcus Beekman ✠ Natchez, Miss.; Medical Department of Tulane University of Louisiana, New Orleans, 1911; member of the Radiological Society of North America; on the staff of the Natchez Sanatorium; aged 54; died, April 23, of coronary disease.

George Christopher Gilfillen ✠ Dayton, Ohio; Medical Department of the University of Cincinnati, 1912; fellow of the American College of Surgeons; on the staff of the Miami Valley Hospital; aged 50; died, February 22, of coronary occlusion.

Max Allan Dorland, Redondo Beach, Calif.; St. Louis College of Physicians and Surgeons, 1906; member of the elementary school board; on the staff of the Jared Sidney Torrance Memorial Hospital, Torrance; aged 58; died, February 18.

Samuel H. Hillin, Houston, Texas; Memphis (Tenn.) Hospital Medical College, 1890; aged 75; died, February 1, at the Memorial Hospital of pneumonia following a fracture of the hip.

John Bruce James, Richmond, Va.; Medical College of Virginia, Richmond, 1931; aged 33; died, February 6, in the Sheppard and Enoch Pratt Hospital, Towson, Md., of pneumonia.

Annie M. Mennie, Chicago; Illinois Medical College, Chicago, 1901; aged 72; died, February 11, in the Washington Boulevard Hospital, of carcinomatosis.

CORRECTION

Dr. Orcutt Not Dead.—The report of the death of Dr. Arthur Henry Orcutt of Oakland, Calif., in THE JOURNAL, May 6, 1939, page 1849, based on a newspaper clipping, was erroneous.

Correspondence

SULFANILAMIDE IN ACTINOMYCOSIS

To the Editor:—I should like to add corroboration to the results of Miller and Fell with sulfanilamide in actinomycosis (THE JOURNAL, February 25, p. 731).

On Feb. 12, 1937, I made a pathologic examination of two fallopian tubes and portions of two ovaries removed from a married woman aged 20. Smears and histologic sections indicated extensive actinomycotic infection. The operation was performed for nonspecific pelvic inflammation of six weeks' duration. It was an unsatisfactory operation owing to extensive adhesions and evident inflammatory activity. The pelvis showed gross evidence of infectious contamination. Convalescence was delayed and followed by a gradually increasing pelvic induration and mass formation associated with a low grade temperature. Potassium iodide and other medication were given without relief. High voltage roentgen therapy was suggested and refused. By this time the general condition of the patient was grave. On a purely empiric basis sulfanilamide was administered in regular, recognized, routine doses. The patient soon showed a surprising improvement, and the pelvic induration and mass slowly regressed and disappeared within eight months. Today the patient is without any evidence of her former infection.

W. E. B. HALL, M.D., Denver.
From St. Joseph's Hospital, St. Joseph, Mo.

USE OF SODIUM DIPHENYL HYDANTOINATE AS ANTICONVULSANT

To the Editor:—It is gratifying to see Dr. Kimball's report testifying to the effectiveness of sodium diphenyl hydantoinate as an anticonvulsant as used in his series of 152 cases since the beginning of 1938 (The Treatment of Epilepsy with Sodium Diphenyl Hydantoinate, THE JOURNAL, April 1, p. 1244).

His was the first clinic to which the drug was furnished after Dr. Merritt and I had given it a ten months trial under rigid precautions in our own wards. This in turn was only after we had demonstrated its ability to prevent experimentally produced convulsions and its low toxicity in animals (Putnam, T. J., and Merritt, H. H.: Experimental Determination of the Anticonvulsant Properties of Some Phenyl Derivatives, *Science* **85**:525 [May 28] 1937).

His observations are therefore of particular value. It is of course of great importance to record, as Dr. Kimball has done, any peculiar side effects which new drugs may produce. Dr. Merritt has in preparation a study of the toxic manifestations observed in a series of more than 300 cases for periods up to two years, which includes the phenomena, such as rashes, reported in our first clinical paper (Merritt, H. H., and Putnam, T. J.: Sodium Diphenyl Hydantoinate in the Treatment of Convulsive Disorders, THE JOURNAL, Sept. 17, 1938, p. 1068) some instances of the change in the gums, which Dr. Kimball so strikingly describes, and a few other miscellaneous disturbances.

While the incidence of hypertrophy of the gums has been lower in our series than in his—eleven out of 332 cases—(possibly because few of our patients were children), we do feel that the condition has only a superficial resemblance to scurvy, and in our cases there has been no evidence of a deficiency of ascorbic acid. Indeed, the case reported by Dr. Kimball might be taken as evidence against such a conception, since the hypertrophy of the gums persisted even after the level of ascorbic acid in the blood had been raised to a high normal. The hypertrophy of the gums does not cause the patient any inconvenience and can easily go unnoticed over long periods of time.

Dr. Kimball is in my opinion entirely justified in recommending that sodium diphenyl hydantoinate be given only under the direction of a physician. Medical supervision is of particular importance in severe cases, in which a compromise must often be made between the dosage required to prevent all attacks and that which produces no side effects. Encouragement and ingenuity must be employed more often in the use of sodium diphenyl hydantoinate than in the use of phenobarbital, but the results are usually worth while. Overdosage and individual intolerance are problems to which there is an obvious solution. As far as danger to life is concerned, the advantage appears to lie with sodium diphenyl hydantoinate, as compared to bromides and phenobarbital. It is difficult to give an animal enough sodium diphenyl hydantoinate by mouth to kill it, and no serious accidents have been reported from its use in the treatment of epilepsy, although some thousands of patients are taking it.

TRACY J. PUTNAM, M.D.
Harvard Medical School, Boston.

MAGNESIUM SULFATE IN PAROXYSMAL TACHYCARDIA

To the Editor:—In THE JOURNAL April 1 appeared a letter from Dr. L. Zwillinger of Prostějov, Czechoslovakia, relative to the therapeutic use of magnesium sulfate in paroxysmal tachycardia. I should like to correct a false impression which evidently was created by my informal discussion of Dr. George Fahr's paper. The mere fact as stated that I had successfully used magnesium sulfate in several cases should not have been construed as a claim to priority in its use. In Europe as well as in the United States through THE JOURNAL the work of Dr. Zwillinger has been publicized. An editorial "we in Vienna" might have been in better taste, or since the purpose of my brief discussion was merely to remind the audience of the use of magnesium sulfate in tachycardia, the "first person" could and should have been omitted entirely. I am but one of a number of cardiologists who used the drug in Vienna.

WILLIAM DRESSLER, M.D., New York.

EXPERIMENTAL RENAL ATROPHY

To the Editor:—In an editorial (THE JOURNAL, April 8, p. 1344) on the recent work of Drury (*J. Exper. Med.* **68**:693 [Nov.] 1938) entitled "Experimental Renal Atrophy," which deals with experimental renal insufficiency and hypertension in the rabbit, several statements are made which are misleading. The writer of the editorial states that the application of our clamp (Goldblatt, Harry; Lynch, James; Hanzal, R. F., and Summerville, W. W.: *J. Exper. Med.* **59**:347 [March] 1934) to the main renal artery, like other technics employed for the purpose of producing experimental hypertension, produces necrosis or other pathologic changes in the kidney tissue, particularly in rabbits. Although it is true that necrosis can be produced at will by our method by excessive constriction of the main renal arteries and that this is more likely to occur in small animals, yet it is equally true, and of the greatest importance, that by our method hypertension can and has been produced in the dog, monkey, rabbit and rat by ourselves and many other investigators without the complication of renal necrosis (Goldblatt, Harry: Harvey Lectures, 1937-1938, p. 237). What is even more important is that by our method hypertension has been produced, without demonstrable renal excretory insufficiency, a complication which it is evidently difficult to avoid by the method of Drury. In fact, this method was first described by Drury in 1932 (*Proc. Soc. Exper. Biol.*

& *Med.* **29**:856 [April] 1932) for the production of renal insufficiency, and it is only recently that he found that elevation of blood pressure also results. It is undoubtedly valuable for this purpose in small animals, and it is especially useful if it is desired to study accompanying renal excretory insufficiency. The method of Drury is not a basically new one for the production of the hypertension, but it is a different method for the production in small animals of the renal ischemia that induces the hypertension. By this method Drury has so far been able to verify our finding that unilateral as well as bilateral renal ischemia may cause elevated blood pressure and also has confirmed some of the other results obtained by ourselves and others who have used our method of constricting the main renal artery. The important fact is that renal ischemia initiates the hypertension. New methods of producing renal ischemia in small animals, or for other special purposes, are valuable, and in this respect Dr. Drury's contribution is of great importance to investigators of the causative relation between kidney and hypertension. Incidentally, the title of the editorial, "Experimental Renal Atrophy," should have been "Experimental Renal Hypogenesia," since Drury's method is designed not so much to cause reduction in the size of the adult kidney but to prevent the full development of the young kidney.

HARRY GOLDBLATT, M.D., Cleveland.

"COMPLICATIONS DUE TO ARSENICAL THERAPY IN SYPHILITIC PREGNANT WOMEN"

To the Editor:—In THE JOURNAL, April 22, appears an exceedingly valuable contribution on the complications due to arsenical therapy in syphilitic pregnant women, with a report of seven maternal deaths, by Dr. Norman R. Ingraham Jr. Two of the fatalities (cases 3 and 4) were designated as acute circulatory collapse: one following the third injection of neoarsphenamine and the other following a second injection. Each death occurred within an hour after treatment. In commenting on the series, Dr. Ingraham notes that "81 per cent of these fatal treatment reactions were precipitated by three or less arsenical injections" and that "death likewise has been a matter usually of only hours or days."

It is apparently obvious to the author that the fatalities cannot be due to the heavy metal, for he goes on to discuss "the possibility of atopic drug allergy" or "sensitization (acquired allergy)" and states that "such speculation finds further confirmation in the pathologic observations . . . consisting only of extreme peripheral congestion of acute circulatory collapse, with the hemorrhagic phenomena in the brain and other organs." Later Dr. Ingraham uses the phrase "colloidoclastic shock" for these conditions.

I should like to call to Dr. Ingraham's attention the laboratory and clinical description of "speed shock," which I published in the *Archives of Internal Medicine* (**47**:259 [Feb.] 1931), and in THE JOURNAL, March 16, 1935, page 878. There will be found a description of the type of circulatory collapse described in these cases. The observations made on experimental animals closely parallel the autopsies in human beings. The discussion of the possible relationship of "speed shock" to nitritoid crises and to anaphylactoid and colloidoclastic reactions indicates clearly that these may all be identical.

The importance of the recognition of the syndrome of "speed shock" lies in the fact that a mechanism, otherwise mysterious, becomes quite patent and that the prophylactic therapy of the slow intravenous drip will prevent not only the fatalities associated with "speed shock" but also the minor acute disturbances such as nitritoid crises.

HAROLD THOMAS HYMAN, M.D., New York.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

DAILY WATER REQUIREMENTS

To the Editor:—Many physicians and school nurses teach that all persons should drink from six to eight glasses of water a day between meals, and especially is this important if a person suffers from constipation. Some, however, caution against overindulgence in salt because it increases thirst and the consequent drinking of water overtaxes the kidneys. The drinking of plain water is to many persons decidedly diuretic, yet the addition of from one-fourth to one-third teaspoonful of salt per glass causes it to be eliminated by way of the intestine instead. Is forced drinking of water without thirst desirable? The majority of people are interested in hygiene these days but advising them becomes difficult with changing concepts and professional disagreements.

M.D., California.

ANSWER.—It is unfortunate that medical "authorities" do not seem to agree on the simple proposition of the daily water requirement of normal persons. Ordinarily the sensation of thirst is an adequate guide to the amount of water required by the body, because it is conditioned largely by the intake of sodium chloride. Therefore, forced drinking of water is not indicated unless there is fever, an infection of the urinary tract or a suppression of the sense of thirst by various causes, including a low salt diet. Under normal conditions a fluid intake of 2½ or 3 quarts a day, including all beverages, is adequate except in very warm weather. There is, of course, no harm in drinking somewhat more, provided the circulation is normal, the prostate is not hypertrophied and sleep is not disturbed by nocturia. In the presence of epilepsy, hypertension or other potential heart disease, nephritis, toxemias of pregnancy and other conditions in which a high salt and fluid intake may do considerable harm, the physician should fit his advice to the individual patient's needs.

CELIAC DISEASE

To the Editor:—I would appreciate a discussion of the etiology, diagnosis, prognosis and treatment of celiac disease (chronic intestinal starch indigestion) in a child 23 months old. Please also give references.

M.D., New Jersey.

ANSWER.—When celiac disease occurs in children who have always been carefully supervised, it is convenient to presuppose the factor of congenital weakness. There is apparently a faulty digestion of fat or, more probably, difficulty in the absorption of fat, although this is not universally admitted. The pathogenesis is not clear. Some clinicians consider celiac disease to be the infantile form of sprue, both tropical and nontropical. These relationships, however, are not completely established.

The disease usually begins after 6 months of age, most frequently in the last quarter of the first year or in the first half of the second year. The stools are usually bulky, light gray or nearly white, often formed, but at times diarrheal. The number of stools is increased and they contain an excessive amount of fat. As the disease proceeds, the nutrition suffers. Nutritional impairment is further shown by the slow body growth. The abdomen is enlarged owing to dilatation of the colon.

Recovery is slow even under treatment, the disease often lasting for years. In mild cases more rapid improvement can be expected. There is a tendency to acute exacerbation at irregular and often frequent intervals. Between attacks the evidences of indigestion may at first be slight or even wholly absent, but it is not long before there is an increase in the intensity of the symptoms until some of them are constantly present. The prognosis under treatment is, on the whole, good except in the instances in which little can be found wrong with the hygiene and diet and there seems to be a constitutional or an early acquired and persistent lack of functional intestinal power. In such cases death from exhaustion is liable finally to occur. There is always too the danger that the impaired general health may diminish the power of resistance to some intercurrent disorder. The general condition of patients who recover may improve long before the excessive fat disappears from the stools. Complete recovery in some cases includes an ability to carry on normal digestion to all intents and purposes, although in others a tendency to an easily upset intestinal tract persists throughout life.

The essential factor in the treatment of celiac disease is dietary regulation. In celiac disease much loss of calcium occurs, and

hence the administration of a considerable amount is indicated. This may be accomplished through the ingestion of casein or by the addition of calcium gluconate to the diet. When diarrhea is present, vitamin C is poorly absorbed. Vitamins A, D and C may be taken in liberal quantities, A and D through cod liver oil concentrates or in the form of carotene and viosterol, and the necessary quantities of C in the form of orange juice and tomato juice, which are well tolerated.

Protein milk may form the basis of the diet. This can be given in a quantity equivalent to one packed level tablespoonful per pound of body weight. The dried protein milk for the day's feedings is mixed with about a quart of warm water and the mixture is passed through a fine sieve several times. The total amount is divided into four feedings, which are given during the day with a long night interval. A small amount of saccharin may be added to improve the flavor. The amount of protein milk is gradually increased until the infant is receiving as much as one tablespoonful of the dried powder per pound of expected body weight for the age, according to the plan of treatment recommended by Sauer. This forms the sole diet for three or four weeks, or until the stools have become firm and the child begins to gain weight.

The next addition to the diet consists of boiled whole milk, equal parts of evaporated milk and water or whole lactic acid milk, which takes the place of the protein milk, the skimmed milk or the fat-free buttermilk which have up to this time formed the basis of the diet.

Well cooked and strained vegetable purées are begun in small amounts and gradually increased, and two whole eggs may be given in a day. These should be soft boiled or coddled. This diet is continued for a period of several months, usually four or five.

The next addition consists of carbohydrates—at first a very small amount of well toasted bread or zwieback and later cooked cereals, such as corn flakes, grape-nuts, puffed wheat or rice. These are served with skimmed milk but without sugar or cream. If starch in this form is tolerated, the amounts are increased and later well cooked rice is added. Corn syrup may be substituted for the dextrose at this stage.

In the treatment of any case of celiac disease it is essential that proper attention be paid to the general hygienic surroundings of the child. Fresh air, sunlight, proper clothing and sufficient rest all tend to promote recovery. These children are difficult to handle, fretful and querulous. Whoever cares for them should be even tempered, considerate and possessed of infinite patience. The diet must be persisted in and no variations made merely for the purpose of satisfying the child. With proper treatment patients with celiac disease may reach approximately normal physical and mental development.

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TREATMENT OF VAGINAL BURN

To the Editor:—Kindly advise the best method of treatment for a vaginal burn which was done with an air spaced pyrex tube, short wave vaginal electrode, area about 2 by 2½ inches. The patient has been getting tampons twice a week and a cleansing douche every day or every other day. Before the tampon was applied, 5 per cent silver nitrate was used.

M.D., Michigan.

ANSWER.—A speculum should be inserted into the vagina but with great gentleness and care to expose the burned area. Then a greasy substance should be applied all over the entire burned area and a loose pack inserted to prevent apposition of the vaginal walls and subsequent adhesions. The simplest way to accomplish this is to insert gauze thoroughly saturated with sterile petrolatum or hydrous wool fat into the vagina. The petrolatum gauze should be removed every day and the vagina gently cleaned of any débris and another pack replaced in the vagina. As soon as the risk of adhesions seems to be passed, only petrolatum should be applied but no pack. Then even this may be discontinued. However, repeated examinations should be made to make certain that there will be no contraction of the vagina as a result of the scar tissue which will form after the burn has healed completely. If shrinking of the vagina does occur, glass dilators will have to be used to prevent constriction. The patient can be shown how to insert these glass dilators herself.

PROTAMINE ZINC INSULIN, DIABETES AND HERPES ZOSTER

To the Editor:—I should like to know whether my experience with protamine zinc insulin has been duplicated by others. Both in private practice and in clinics with a total diabetic population of about 1,500 I have noticed that herpes zoster has been an extremely rare complication of diabetes. We have had only two cases in more than ten years. Joslin, in his book, lists seven cases in a total of some 6,000 diabetic patients. Since the use of protamine zinc insulin, however, we have had at least a dozen cases of herpes zoster among our patients. Taking into consideration the comparatively short time that the newer insulin has been used, this represents a great increase in the incidence of the complication. I am wondering whether the explanation lies in the fact that the protamine, being a protein, cannot be sterilized by heat and that passage through a Berkefeld filter would permit the virus of herpes zoster to be carried into the final preparation.

E. M. Abrahamson, M.D., Brooklyn.

ANSWER.—Herpes zoster not infrequently occurs in the course of diabetes and is far more common than might be inferred from the reference cited. Despite extensive use of protamine zinc insulin no increase in the incidence of herpes considered attributable to the insulin has been noted in a large experience. Whether it is more frequent in diabetic than in nondiabetic persons is an open question. It may seem to be more frequent now, because diabetic patients are living longer and are watched more closely by their physicians, and all complications are more accurately recorded. Herpes zoster is in general more frequent in older than in younger persons; diabetes originates in at least two thirds of the cases after the age of 40.

CEREBROSPASTIC DIPLEGIA AND SPEECH TRAINING

To the Editor:—A girl aged 4 years had a cerebral hemorrhage at birth. The lesion was definitely diagnosed by x-ray examination following injection of air into the ventricles. She has a definite Little's disease syndrome but began walking at about 30 months. The lesion seems to be located over the speech center, as she does not talk. She will obey commands and shows mentality otherwise of about a 2 year old child. She had pneumonia at about 9 months of age. Following the febrile stage she made definite improvement. Hence the family feels that fever therapy might do good in spite of the diagnosis that has been made. Is there any literature you might have to offer on therapy or do you suggest a school of speech?

M.D., Illinois.

ANSWER.—As far as can be ascertained, the literature offers no definite proof that fever therapy will ameliorate or aid in the treatment of Little's disease (cerebrospastic diplegia). A special school where attention can be given to speech training and physical therapy for the development and coordination of muscles would be advisable for such a child.

DESTRUCTION OF ENTIRE NASAL SEPTUM

To the Editor:—A woman aged 43 presents a nasal condition the cause and cure of which baffle me. The history dates back twenty-nine years. At that time there was a small "scab," as she describes it, on the left side of the septum of the nose; following this there was a small perforation of the septum. This gradually increased until at present the entire septum is destroyed; the perpendicular plate of the ethmoid is eroded. Hemorrhage is frequent, at other times just a serous discharge. The turbinates become congested. Severe headaches result until free drainage is established in the nose. The Wassermann test is consistently negative. The nasal bone is not involved. No metastasis or polypi are present in the nasopharynx; there is no adenopathy of the glands in the neck. X-ray examination of the sinuses shows slight cloudiness. Smears show no organisms. The patient's father died at the age of 75 of chronic fibroid pulmonary tuberculosis. He was said to have had tuberculosis cutis. Treatment has consisted of nose drops, cauterization (with phenol, silver nitrate, and so on) and roentgen treatment, with no improvement. Specialists as well as general men have treated the patient and have failed to make a diagnosis. Please outline the cause and cure.

M.D., Kansas.

ANSWER.—A spontaneous ulceration of the septum beginning in the cartilaginous portion leading to a perforation which slowly becomes larger and larger can be due only to some specific origin which is not malignant. A simple traumatic perforation never extends beyond the cartilage unless there is a general atrophic rhinitis. The case described was most likely a lupus, which presents its characteristic appearance only in the early stages. After the septum has been perforated the characteristic apple jelly nodules are more difficult to isolate and observe. It is rare, however, for a lupus of the septum to be unaccompanied by lesions elsewhere in the nasal cavity or in the skin. However, it is not impossible. A biopsy taken from the margin of the perforation might still show the typical granuloma with giant cells. The only treatment that offers a chance of arresting the process is destruction of the margins with diathermy or the local use of radium. A total of from 400 to 600 mg. hours may safely be used if adequately screened.

Since there is no mention of scabbing or thick secretion, there would be no indication to use any local medication except for occasional introduction of petrolatum.

DIABETES AND GOAT'S MILK

To the Editor:—Several patients with diabetes have been on insulin and have had more or less difficulty, probably because of the inaccuracies of diet or measuring of the insulin dose. Many of these patients have been led by their friends to begin drinking goat's milk and to my great surprise have been able to lower the insulin dosage and finally abandon it altogether and still continue to be sugar free. I have always held that goat's milk was no different than cow's milk except the minor difference in the mineral content and the slight difference in the protein. I can see no reason why goat's milk should be of value. After having seen many of these patients improve without any other change in diet, I feel that there must be some value in it. Have there been any well controlled experiments which would throw any light on the subject?

M.D., New York.

ANSWER.—There is nothing in the chemical composition of goat's milk as compared to that of cow's milk to suggest that the former might be of value in the treatment of diabetes. According to Bosworth and Van Slyke (*J. Biol. Chem.* **24**:173 [March] 1916), its average food value and salt content compare with cow's milk as follows:

	Cow's Milk	Goat's Milk
Percentage of fat	3.90	3.80
Percentage of milk sugar	4.90	4.50
Percentage of protein	3.20	3.10
Percentage of salts	0.910	0.939

Other analyses give slightly different figures.

The analysis of the casein does not differ greatly from that of the casein of cow's milk. There are minor differences in the distribution of phosphates and in the chloride content. It is perhaps of interest, because of recent knowledge of the association of zinc and insulin, to note that Koga (*Keijo J. Med.* **5**:106 [June 30] 1934) found that the zinc content of cow's and goat's milk is approximately the same.

Metabolic studies have been reported only on nondiabetic infants. Sherman and Lohnes (bulletin 429, New York Agricultural Experimental Station, Geneva) found no definite difference in the rate of gain of infants fed cow's and goat's milk. Daniels and Stearns (*Am. J. Dis. Child.* **30**:359 [Sept.] 1925) found that normal infants retained less nitrogen (from 17 to 25 per cent in one series, and from 42 to 44 per cent in another) on a diet of goat's milk than on one of cow's milk.

It would be necessary to have better controlled observations of the cases of diabetes in question, so as to eliminate numerous other possible factors in the improvement, before it could be concluded that the goat's milk was of any positive therapeutic value. It seems extremely unlikely that the use of goat's milk without any other change in diet could have been solely responsible for the changes noted. One is reminded of the old Donkin "milk cure" for diabetes in which milk supplanted all other articles of diet, thus providing an intake of food which was comparable to some of the present day high carbohydrate diets.

ANHIDROTIC HEREDITARY ECTODERMAL DYSPLASIA

To the Editor:—Is there any therapy for a familial absence of sweat glands as shown by inability to perspire and distress when the temperature is raised?

J. R. DUNDON, M.D., Milwaukee.

ANSWER.—Hereditary ectodermal dysplasia of the anhidrotic type is a rare anomaly and all cases should be studied and reported. It appears in male children as a rule and is transmitted only by the female. There are a few exceptions to this rule, such as the case reported by Goeckerman (Congenital Ectodermal Defect, *Arch. Dermat. & Syph.* **1**:396 [April] 1920) and the cases recently reported by Kerley (Hereditary Ectodermal Dysplasia, Non-Sex Linked Type, *Arch. Pediat.* **55**:211 [April] 1938). In all the cases there have been other ectodermal defects, such as deficiency of hair and teeth, a peculiar depression of the bridge of the nose, mistakenly called a saddle nose, bulging of the forehead, even deficiency of the adrenal cortex as noted by Thannhauser (Hereditary Ectodermal Dysplasia of the Anhidrotic Type, THE JOURNAL, March 14, 1936, p. 908). The first case of this kind was reported by an American dentist (Guilford, H. S.: A Dental Anomaly, *Dental Cosmos* **25**:113, 1883).

Under moderate temperatures these patients are comfortable, for insensible perspiration, so called, is not dependent on the action of the sweat glands, as Loewy has shown. His patients with the ectodermal defect eliminated as much water as those with normal skin. Only when the temperature is high, calling for real sweating to keep down the body temperature, do they suffer. Air cooled rooms in which the patient can remain when the weather is hot solve the problem for those able to afford it. Keeping the underwear wet may also be tried. Anointing the skin frequently with a water-containing ointment may be of service. The following may be tried: wool fat 1 Gm., petrolatum 2 cc. and rose water 3 cc.

Mayr (Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1932, vol. 13, pt. 1, p. 26) suggests trying pilocarpine from 5 to 15 mg. (one-tenth to one-fourth grain) in an effort to stimulate whatever sweat glands there may be. This, if tried, must be done with caution, for the action of pilocarpine varies greatly in different individuals.

COUCHING A CATARACT

To the Editor:—In Isabella of Spain; the Last Crusader (1451-1504) William T. Walsh on pages 56-57 states: "Jewish physician and astrologer had just restored the sight of one of the King's eyes by couching (King Juan of Aragon). Juan urged the Jew to heal the other eye. The doctor pleaded that the planets were unfavorable. Juan threatened him with death, but the Jew refused to operate until October, when he couched the other eye with complete success. Juan restored to sight at 80, put on his armor." Webster's Dictionary says "Couch (surgery): Formerly, to treat (a cataract) by turning down or displacing the opaque lens of the eye." In what history of medicine is this old procedure mentioned?

I. H. KIESLING, M.D., Nashwauk, Minn.

ANSWER.—The couching of a cataract is an old procedure. It is mentioned at greater or less length in practically all histories of medicine that deal with ophthalmology. Apparently couching originated in India, where it is still practiced by the natives (Hirschberg, Julius: Ueber den Star-Stich der Inder, translated by Surg. Capt. Maynard, *Indian M. Gaz.*, No. 6, June 1894). It did not appear to be known to the Greeks, and the first mention is by Celsus in the time of Nero. It was of course known to the Arabians, but no mention of the method appears in the old Egyptian literature (The Tadhkirat of Ali ibn Isa of Baghdad: Memorandum Book of a Tenth Century Oculist, translated by Casey A. Wood, page 81). A complete description of the history of couching by Julius Hirschberg (The History of Ophthalmology) appears in Graefe-Saemisch Handbuch der gesamten Augenheilkunde, second edition, volume 12, chapter 13, page 35. Descriptions of the methods of couching can be found in The American Encyclopedia of Ophthalmology, vol. 2, page 1473, and vol. 5, page 3544.

ACNE ROSACEA

To the Editor:—A white man aged 60 has been troubled for years with acne rosacea of the nose. He has consulted many physicians and on two previous occasions, five years ago and three years ago, took x-ray treatments for this condition. In October I gave him three treatments followed by apparent recovery, but the tendency toward the formation of brown scabs is now returning. I have told the patient that this is a chronic type of disease in which x-rays are helpful as a method of treatment, but the possibility of permanent cure is not good. I would appreciate your opinion as to the value of x-rays in acne rosacea; also I should like to know whether or not there is any treatment that will produce a permanent cure.

M.D., Iowa.

ANSWER.—The use of x-rays is one of the most valuable methods for the local treatment of acne rosacea. They by no means effect a permanent cure in all cases, though they are helpful in the majority. Care should be used not to give too large doses or to continue their use too long. There is no method known which would promise a permanent cure. The disease can be ameliorated and more often cured at its outset. Astringents, such as the much used lotio alba, may be sufficient to accomplish this if continued for a long time. Better results may be expected if general measures are combined with local measures. Highly spiced and hot foods and drinks as well as alcohol must be omitted. Anything that irritates the skin, such as wind and weather and strong soaps, should be avoided.

MALARIA IN PREGNANCY

To the Editor:—What is the advisability of permitting a pregnancy to continue in a patient who has had tertian malaria during the past fall. At the present time the patient shows no ill effects from the disease and is still taking regular quinine treatments every month. She has had no recurrences, but her daughter has.

M.D., Michigan.

ANSWER.—There is no indication to terminate pregnancy in this case; malaria does not affect the child unless the disease is acute and severe or unless malarial cachexia develops. Since pregnancy, labor and the puerperium favor relapses, it would be wise to continue prophylactic treatment for the first six months. The dosage should not be large—about 10 to 15 grains (0.65 to 1 Gm.) a week, preferably divided. Recent experiments have shown that even a normal dose of quinine may produce changes in the auditory nerve resulting in deafness (West, R. A.: *Am. J. Obst. & Gynec.* **36**:241 [Aug.] 1938), and there is some ground for believing that large doses in man may do the same. More clinical research on this matter is needed, but it is worth keeping in mind.

LESION OF SPINAL CORD

To the Editor:—A white man aged 38, a superintendent of schools, consulted me for tachycardia of from 90 to 100 and overweight (213 pounds [96.6 Kg.], 6 feet 2 inches [188 cm.]). The blood pressure was 135 systolic, 75 diastolic. There was no evidence of sclerosis of the arteries by palpation. (He had no complaint of any ailment and came only because of membership in the army reserves). After four weeks of treatment, which consisted of a controlled low calory diet and 5 drops of 50 per cent solution of potassium iodide three times a day, he weighed 200 pounds (91 Kg.), the blood pressure was 115 systolic, 75 diastolic, and the pulse 75. Three weeks later he began noting slight weakness of the legs, which was relieved by rest. About 1 p. m. (after attending a dance the previous evening after a strenuous day in the city) his lower limbs became suddenly paralyzed and he sank to the ground in his garage. He called for help and was carried into the living room. Examination within half an hour revealed a blood pressure of 115 systolic, 70 diastolic, a pulse of 78 and a temperature of 98.4 F. He was lying down and unable to move from the hips down. The pupils were equal and regular and reacted to light. The abdominal responses were normal, the knee jerks were equal and slightly hyperactive, the plantar response was not present and the Gordon, Oppenheim and Chaddock reflexes were also absent on both sides. There was no ankle clonus. In the next twenty or thirty minutes movement returned to the right foot. He was then moved to a bed and warm blankets were applied, whereupon he stated that he was unable to feel the warmth with the left leg from the knee down. A check-up of the cranial nerves revealed all to be intact. (Nystagmus was not present.) The biceps and triceps reflexes were normally present on both sides. The Hoffmann response of the thumb could not be elicited. A normal plantar response now occurred on the right, which foot and leg he moved with ease and normally. Pain sensation (with pinprick) was normally present except from the knee down on the left leg. Six hours after the occurrence of paralysis there was a prickly sensation of the skin of the left leg which lasted for half an hour. Soon thereafter he was examined. He was then able to move his left foot and knee but some weakness remained at the hip. Plantar response was now present and normal and equal to that of the right. Other reflexes were unchanged. Examination of the blood and urine gave negative results: hemoglobin content 85 per cent, red cells 5,100,000, white cells 5,800, polymorphonuclear leukocytes 60 per cent; specific gravity of the urine 1.018, albumin and sugar not present and only a few epithelial cells found on microscopic examination. A blood Wassermann test has been taken as a routine every two years since 1926 and has always been negative. There was complete return of strength in the ensuing few days and the remainder of the Christmas vacation he spent on a 1,200 mile automobile trip with his family. At present, three weeks after the attack of paralysis, he feels entirely normal and is doing his regular work. There is no history of any such occurrence in any member of his family. I shall appreciate your suggestion for further examination and also as to what diagnosis or possible diagnoses may be applied. What is the prognosis?

M.D., California.

ANSWER.—The patient has, of course, a lesion of some kind affecting the spinal cord. The two common conditions that must be considered are a tumor of the spinal cord and multiple sclerosis. As long as his condition remains normal it would be better to do nothing. If symptoms return an injection of iodized oil into the cisterna magna will tell whether or not it is a tumor and, if a tumor, where it is located. If the iodized oil descends to the bottom of the canal there is almost positive evidence that no tumor exists, and the probable diagnosis is multiple sclerosis. The prognosis, of course, depends on the character of the lesion.

THYROID AND PERMANENT WAVE

To the Editor:—Would the administration of thyroid extract to a patient over a considerable period have any effect on the patient's hair from the standpoint of its response to permanent waves? Three patients have told me that within a month or two after starting such medication their beauty operators asked them if they were taking thyroid because of the fact that the permanent waves were not taking the way they had before. I would be most happy to know if any work has been done or any observations made on this problem.

RICHARD B. SCHUTZ, M.D., Kansas City, Mo.

ANSWER.—Hyperthyroidism may cause premature graying of the hair, especially over the temples and above the ears. The hair of the whole body becomes thinned, not sparing the eyebrows and lashes or the scalp. The skin is usually moist, sometimes with pigmentary changes such as vitiligo or a generalized darkening.

Myxedema, the hypothyroidism of adults, produces in 90 per cent of cases a dry skin with dry and harsh hair, and an alopecia. If a patient in this condition is getting insufficient thyroid medication, one might expect some difficulty with the curling process. This does not apply in the cases cited in the query. In patients on treatment with thyroid extract it is not to be supposed that a hyperthyroid condition can exist. If thyroid medication is indicated, one would naturally expect the condition of the hair to be improved, being restored to a more nearly normal state.

So far as recent medical literature shows, there has been no research tending to give a scientific basis for the theory that small amounts of thyroid extract given a patient who is in need of such treatment can exert any deterrent effect on the susceptibility of the hair to the action of alkalis or heat. Until such work has been done and substantiated, the theory must be considered untenable. It is difficult to avoid the suspicion that this is just another excuse for a failure to produce a satisfactory wave, a failure really due to imperfect technic.

GRANULOMATOUS ULCER ON FLOOR OF NOSTRIL

To the Editor:—A man aged 31 has had an ulcer on the floor of the left nostril the size of a dime (18 mm.) for eight months. The diagnosis, based on microscopic examination of material obtained at biopsy, is chronic granuloma consistent with tuberculosis or sarcoid. What treatment would you advise? There is no evidence of tuberculosis in any system and the Wassermann reaction is negative.

M.D., Massachusetts.

ANSWER.—If the diagnosis is well established energetic and persistent local treatment is indicated. The treatment of choice perhaps is the use of the galvanocautery, a fine point being introduced repeatedly into the ulcerated area and also about the margins to induce a limiting fibrosis. This may be used directly on the ulcer at first or after extensive curettement. Diathermy may also be used to destroy the diseased tissue; or chromic acid may be used if the former two methods are not available. Cauterization may be repeated every ten to twenty days, and in the intervals the patient should have some ointment to apply locally in order to keep crusts from forming.

Applications of radium with a dosage of from 100 to 200 milligram hours applied directly to the lesion have given satisfactory results. Roentgen therapy and electrolysis have not given as good results as the other treatments described. It is needless to say that despite the lack of evidence of systemic tuberculosis general hygienic and supportive measures should be advised.

CONTINUED POSTOPERATIVE PELVIC PAINS

To the Editor:—I am seeking information regarding those patients who have persistent postoperative pains following pelvic operations. Fortunately they are not common. I have patients who had surgery done over two years ago and still continue to have pains in the pelvic regions and pains referred to the back and down the thighs. They have had general supportive or tonic and vitamin therapy and various forms of local therapy such as diathermy, tampons, douches and enemas, but to no avail. Can any one suggest a remedy for these cases?

M.D., Illinois.

ANSWER.—Although it is unfair to state that there is always a demonstrable cause sufficient to explain cases of persistent pain, most of these patients have adhesions, inflammatory masses, or dragging organs with a disturbance of function.

Helpful factors in surgical technic which merit emphasis include the employment of rubber packs to wall off the bowel, deliberate technic in contrast with haste, and placement of the pelvic organs and tissues so that they are well supported but, above all, so that they are free from undue tension.

In those instances in which no pathologic change is demonstrable, frequent causes of discomfort include constipation; improper diet, particularly overeating and hasty eating, also indulgence in too much candy and pastry and too many coarse vegetables, raw fruits and salads; alcohol, a common cause of "colitis"; excessive coffee; lack of sufficient walking and other activities outdoors; personal maladjustments or unhappiness, often accentuated by too much bridge and employment of time with occupations which disturb rather than add to one's poise.

Elliott treatments, sun baths, hydrotherapy, change of climate, sedatives, thyroid therapy and vitamins (with emphasis on liver preparations) are among the items in specific therapy which merit particular mention.

CONGENITAL UMBILICAL HERNIA

To the Editor:—On December 14 I delivered a child with a large hernia into the umbilical cord. This hernia contained the liver and part of the stomach and transverse colon. Its wall consisted of only peritoneum and the amnion of the cord. Immediate surgical repair was done and the infant has survived. I find but little reference to this condition in recent textbooks on obstetrics and pediatrics. What is the incidence and mortality of this condition?

J. H. HOSKINS, M.D., Wahpeton, N. D.

ANSWER.—According to H. B. Saunders (Surgical Treatment of Congenital Umbilical Hernia, *Illinois M. J.* **51**:204 [March] 1937), true congenital umbilical hernia occurs about once in 5,000 deliveries, and such a hernia containing intestine or other abdominal contents occurs about once in 10,000 cases. In an excellent summary of the literature of this anomaly, Julius Jarcho (Congenital Hernia with a Report of a Case Involving the Liver, *Surg., Gynec. & Obst.* **65**:593 [Nov.] 1937) states that in 109 tabulated cases of congenital umbilical hernia the liver was present in thirty-one instances. About 1930 a number of articles

appeared in the literature, most of the authors reporting a single case. The mortality, as might be expected, is high, owing to four definite factors: 1. The effect of anesthesia on a premature or newborn infant. (There is no general agreement as to whether a local anesthetic is safer than ether.) 2. The result of shock and as a direct result of manipulation and operation. 3. General peritonitis. The resistance of the newborn to infection is extremely low, and any method which will reduce this factor should be the one of choice. Horwitz (Hernia of Umbilical Cord: Exomphalos, *Ann. Surg.* **92**:454 [Sept.] 1930) suggests extraperitoneal closure. 4. The inability to return the liver or extra-abdominal hernial contents to the abdominal cavity. Of course, when this is mechanically impossible death ensues within a short time.

BASAL METABOLISM IN CHILDREN

To the Editor:—Since patients in the department of basal metabolism are mainly children, we often encounter cases in which we are at a loss to determine the normal values for the patient. The medical literature is full of controversy regarding the best way to predict normals in infants and children. May I therefore have recourse to your wide experience to tell me which is the best formula for predicting normals. The Aub-Du Bois and Harris-Benedict formulas are intended. I would be much interested to know also what kind of apparatus (with a complete description) you would use in taking the basal metabolic rates of infants and children.

N. R. BOUZIANE, M.D., Montreal, Canada.

ANSWER.—The determination and interpretation of the basal metabolism of infants and children differs principally from that of the adult in that during the former period there is rapid growth and change in the body, while in the latter the body has become standardized. When one considers the period of childhood a distinct division must be made at the age when it is possible to obtain the basal metabolism accurately, collecting the breathing air through a mouthpiece with the help of a nose clip. This requires the intelligent cooperation of the child, and except in rare instances basal periods cannot be obtained with the so-called portable apparatus under the age of 7 years, and the physician should not depend on observations obtained at earlier ages by this method. The metabolism of children younger than 7 years has been obtained in cot chambers which are usually constructed in two sizes, one for infants up to 2 years and the other capable of holding children from 2 to 12 years. The earliest one used in children for relatively short periods was described by Benedict and Talbot ("The Gaseous Metabolism of Infants," publication 201 of the Carnegie Institution of Washington, 1914; and Some Fundamental Principles in Studying Infant Metabolism, *Am. J. Dis. Child.* **4**:129 [Sept.] 1912). This was a closed circuit. Subsequently the apparatus was modified and the open-circuit method used. This was further modified and the time of experimental observations shortened by addition of the Tissot gasometer as described by Higgins and Bates (*Am. J. Dis. Child.* **39**:71 [Jan.] 1930). This method has proved to be accurate and relatively rapid.

All methods of obtaining the basal metabolic rate of infants and young children require a special laboratory technic and technical skill. The portable apparatus that is used for older children and adults, devised by Benedict and Krogh, is manufactured by several different concerns, and although they are all based on the same general principles the mechanical constructions are different. (The Benedict-Roth portable apparatus, manufactured by Warren E. Collins, Inc., 555 Huntington Avenue, Boston, is one which has been found satisfactory.)

The different methods of obtaining the basal metabolic rate of children are not as a rule due to the type of apparatus used but to the technic of obtaining the metabolism and the difficulty of obtaining basal figures. Too large a proportion of the figures that appear in the literature do not represent basal figures, either because of lack of cooperation of the child, excitement or inexperience of the technician in handling children. The tendency of physicians to accept a single test as representing the basal metabolic rate has led to publication of much worthless material and has been commented on by Du Bois in the *Journal of Nutrition* (**3**:331 [Nov.] 1930).

The difficulties experienced in interpreting the basal metabolism of children has resulted from lack of knowledge of the physiologic processes which may affect the metabolism of the growing child. The whole problem of the normal heat production of girls has recently been reviewed by Talbot, Wilson and Worcester (*Am. J. Dis. Child.* **53**:275 [Jan., part 2] 1937) and the former has published standards for both boys and girls that approach the problem from a slightly different angle than that used in the Aub-Du Bois and the Harris-Benedict standards. Talbot believes that these standards give results consistent with clinical changes experienced in childhood. Statistical analyses show that so long as the physical development of the child is normal there is no choice between this standard, the Aub-Du Bois, or the Harris-Benedict but that in children of abnormal development, either underweight or obese, the changes are more consistent with the clinical experiences. It would seem that the use of the standards for total calories for weight and height are therefore of more universal application.

TRAUMATIC ULCERS OF LEGS

To the Editor:—A housewife aged 33 sustained an injury to the lower part of her left leg in July 1938 in a fall in her home. The injury was located on the medial aspect of the upper third of the lower part of the leg. The wound was superficial and involved only the soft tissue. This contused wound became infected in a few days and was then treated with hot packs. Since that time there has been an area about the size of a quarter (24 mm.) which does not heal. Treatment has consisted of various ointments such as peruvian balsam, allantoin and scarlet red. This area, which now really is an ulcer, becomes infected easily. On several occasions the ulcer has been treated with 10 per cent silver nitrate, a sponge applied over the dressing and an ace bandage applied to the lower leg, according to the method of McPheeters. In a few days the ulcer is clean with no evidence of infection, and granulation seems to set in, but even after several weeks of such treatment the epithelium shows no tendency to heal. The Wassermann and Kahn reactions of the blood are negative. Urinalysis is negative. X-rays show no involvement of the bone. The patient's general health is satisfactory. There is no evidence of varicosities. The patient at all times has been ambulatory. I would appreciate any suggestion you may be able to give as to treatment.

M.D., Illinois.

ANSWER.—Traumatic ulcers of the lower extremities, especially if they are located over the tibia where the skin is on a stretch and the blood supply is not active, show a poor tendency to healing. Their chronicity is maintained by secondary infection, and a wall of inflammatory induration is built around the edges. When the defect assumes the size of a quarter, it is best to immobilize the patient with the leg elevated and use continuous dressings of hot boric acid. When the granulations look healthy and the edges are not undermined, a skin graft, preferably a split graft, can be used to cover the ulcer. This procedure requires some experience in plastic surgery. The customary Thiersch graft is too thin and readily breaks down in this location.

BILIARY COLIC

To the Editor:—A woman aged 39 with a history of typhoid at 10 has had mild attacks of biliary colic almost daily for the last eight months. The attacks do not incapacitate her but are enough to make her feel miserable. She passed a renal calculus (left kidney) five years ago. Two months ago duodenal drainage showed normal response of the gallbladder to olive oil. Culture of bile is negative. The icteric index is normal. Blood cholesterol is normal. There is mild gastric hyperacidity. Dye studies show no stones. Emptying of the gallbladder is normal. The stomach is negative on x-ray examination. The urine is normal. Treatment with antispasmodics and alkalis give but little relief. Because of the typhoid would you recommend surgical operation? She has never had acute biliary colic. Can you suggest any further treatment?

M.D., New York.

ANSWER.—The patient should have an intravenous pyelogram to see whether or not the distress is reflex from the urinogenital tract. Furthermore, it may be that the patient has a dyskinesia of the sphincter of Oddi. Finally, one should consider the possibility of a duodenal ileus or stasis. The condition might be improved by the knee-chest position after meals and a suitable corset and pad to hold the stomach in a more normal position to relieve the duodenal ileus. Instead of alkalis after meals, it might be well to try diluted hydrochloric acid in suitable doses. Surgical intervention from the evidence presented does not seem justified.

INHERITANCE OF HUNCHBACK

To the Editor:—A patient has inquired whether the fact that the mother of his prospective bride has a marked kyphosis (hunchback) could conceivably reflect itself in offspring. The two children of this woman are apparently entirely normal. The cause of the kyphosis is not known. If there is any logical or statistical basis for worry, please explain.

M.D., New York.

ANSWER.—The only direct evidence as to the inheritance of the hunchback condition seems to come from the description of a pair of one egg twins by Siemens. When these twins were babies they were both normal and healthy and so much alike as to be practically indistinguishable. Later on one of them had an illness that left her a hunchback invalid, while her twin remained straight and healthy. In this case the hunchback condition was not hereditary, for one egg twins have exactly the same hereditary makeup. There probably is no cause to worry about the case in question.

ANTHRACOSIS

To the Editor:—Does bituminous coal dust cause disabling anthracosis? Are there any cases on record? If so, what are the signs and symptoms?

M.D., New York.

ANSWER.—There is evidence to show that under certain circumstances bituminous coal miners may develop a disabling pneumoconiosis sometimes called "anthracosis," or, more specifically, anthracosilicosis, a silicosis complicated by the accumulation of coal dust in the lungs. A miner's exposure to coal dust may vary from mine to mine, and disability produced may vary depending on the amount of siliceous material associated with the coal dust which he breathes.

The pathologic changes in the lungs may vary from a simple black anthracotic lung without much fibrosis to extensive, localized accumulations of coal dust in fibrotic "india-rubber-like" areas. The latter change apparently does not occur unless the miner has been exposed to quartz.

As in silicosis, dyspnea, cough productive of more or less black sputum, weakness, pain in the chest, physical signs of bronchitis, pulmonary fibrosis and emphysema are symptoms and signs that appear late in the course of the disease. X-ray study will show the degree of fibrosis. Careful sputum study by smear, culture and animal inoculation is often necessary to establish a complicating tuberculosis.

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VISUAL MEMORY AFTER BLINDNESS

To the Editor:—A patient who has been totally blind for five years informs me that visual memories of objects have been gradually fading from his mind, so that now they are entirely extinct. He has no visual image of his wife, who takes care of him, nor of his friends. On questioning about his dreams, he says that though he dreams of performing certain tasks, such as drafting, he never sees objects or people. He is apparently intelligent, with no impairment of faculties. He reads braille. Is this usual in such cases and what is the explanation?

M.D., New York.

ANSWER.—Loss of visual memory is not usual among the blind. One man, blinded at 58 and now 78, states that he still has clear visual images of what he saw before he was 58 with no fading out whatever. For twenty years he has been a teacher of thousands of adult blind and states that he has never heard of such a thing. He further says that many students refer in their writings to things they used to see, and he therefore feels that loss of visual memory must be a most unusual phenomenon. It is possible that in this instance the claimed loss of visual memory may be a subconscious attempt to procure sympathy. At least such a possibility must be considered.

EPITHELIOMA OF LABIA

To the Editor:—Please advise me as to the safest method of procuring a specimen for biopsy from a patient with a suspicious irritation of the labia majora. In the event of a diagnosis of epithelioma, what would be the approved method or methods of treatment? The patient is 66 and is in fair health and strength.

M.D., California.

ANSWER.—If the suggestive area is small and the clinical appearance and history are such as to lead to a reasonable possibility of malignant disease, the safest procedure to adopt is to excise such a lesion completely. The excision may be made with a scalpel or with the electro-endotherm knife.

In the event of a diagnosis of epithelioma, the lesion will have been removed completely and no further treatment is necessary. If the lesion is too extensive to remove by a simple local excision, a small fragment may be excised carefully and examined microscopically. If the lesion proves to be an epithelioma, the best procedure is complete surgical removal if the lesion is operable. This procedure is preferable to radiation therapy when the lesion is still in an operable stage. The question of how to treat the regional lymphatic gland is much more difficult to answer. The following reference is suggested: Cutler, Max, and Buschke, Franz: Cancer—Its Diagnosis and Treatment, Philadelphia, W. B. Saunders Company, 1938, pages 413 and 414.

OSTEOMYELITIS AND SYPHILIS

To the Editor:—A man aged 52 with syphilis of unknown duration was treated in a venereal disease clinic from Oct. 9, 1936, until July 8, 1938, the last treatment being given June 10, 1938. During this time he received four courses of twelve injections of bismuth from Oct. 9, 1936, to June 10, 1938, and one course of twelve injections of bismarsen from Oct. 15, 1937, to Jan. 14, 1938. The last Wassermann reaction, June 30, 1938, with alcohol was 4 plus and with cholesterol 4 plus, and the Kline reaction was 2 plus. I may add that the patient was discharged to await a recall for further treatment and has as yet not been recalled. The patient has been suffering pain for months in the right leg. An x-ray diagnosis of osteomyelitis (syphilitic?) has been made. Biopsy reveals a nonspecific inflammatory process. Four years ago an identical syndrome (agonizing pain and swelling) existed for a total duration of two months, successively in the left forearm, the left and then the right elbow, disappearing spontaneously. How shall I treat this patient?

LEON PARIS, M.D., Bronx, N. Y.

ANSWER.—The evidence offered by the inquirer is hardly enough from which to make concrete suggestions. In view of the x-ray evidence and the previous positive Wassermann reaction, the patient should be given the benefit of antisyphilitic treatment. The previous treatment was unbalanced, in that the amount of arsphenamine received was inadequate. The patient should be given at least eight doses of arsphenamine and sixteen injections of bismuth, and with this treatment the pain in the leg should disappear if the osteomyelitis is of syphilitic origin. It is sometimes necessary to remove sequestrum surgically from syphilitic osteomyelitis. If the therapeutic test is positive, at least three more similar courses should be given. On the other hand, osteomyelitis in a patient with syphilis may be due to some other type of infection.

EARACHE AND MENSTRUATION

To the Editor:—A white woman aged 23, married, has two living children, none dead, has had no miscarriages and is in general good health. Her chief and only complaint is earache. About ten days before each menstrual period is due she begins to have a slight pain in the right ear; the pain becomes progressively worse until it is almost unbearable. The pain begins to subside until by the time the menstrual flow has started it has entirely ceased. There is no more pain for another month. The pain is always more severe at night. The patient started menstruating at 14; she has always been regular, every twenty-eight days, and usually menstruates for four days. She has never had any pelvic pain—not even the slightest cramps—at her periods. She had never had any pain in the ear prior to the beginning of menstruation but has had it every month since. She has had two children; in each of her pregnancies she had no earache. The youngest child is 5 months of age. One day after the birth of this child the earache began and ran through a cycle similar to a premenstrual cycle. The menstrual periods have not become reestablished since the birth of the last child but each month she has had the earache. Complete physical examination is essentially negative, with the exception of a moderate retroflexion of the uterus; the uterus is freely movable. There is no record of pelvic examination prior to the birth of the first child. Do you think that all the pain is referred and due to the retroversion, or that it is a delayed pain due to ovulation? Also do you think surgical correction of the retroversion will be of any benefit? Exercises, including the knee-chest position, have had no effect. Thank you for any information you may give.

M.D., North Carolina.

ANSWER.—It is quite unlikely that the premenstrual pain in the ear is referred from a retroflexed uterus. It appears, however, that this patient exhibits a unique example of the so-called nasogenital relationship. There is considerable evidence at the present time that the nasal mucosa is involved in ovarian function (Rosen, S., The Nasogenital Relationship, *Arch. Otolaryng.* **28:** 556, 1938). Experimentally pseudopregnancy in rats can be produced by several sorts of stimulation of the nasal mucosa. Clinically it is well known that congestion and vasomotor changes of the nasal mucosa, especially that of the turbinates, is manifested during the premenstrual period. It is conceivable that in this patient the congestion of the nasal mucosa occurring in the second half of the menstrual cycle may effect the orifice of the right eustachian tube, thus, resulting in pain which is referred to the ear. Possibly the tissue about the orifice may be responsive to the ovarian hormones through some anomaly.

It is recommended that a thorough nasopharyngeal examination be made at the height of the patient's distress. If mucosal changes are found, it is suggested that the patient be treated as in premenstrual tension with progesterone in doses of 5 mg. intramuscularly twice a week during the premenstrual period. Vasoconstrictor drugs may also be tried.

POSSIBLE TRICHOMONAS PYELITIS

To the Editor:—A woman aged 33 gives a history of a great deal of pain in the right side. She has had her gallbladder removed, has had several complete and thorough examinations of the kidneys and x-ray examinations with oral dye and intravenous dye, but no definite pathologic change has ever been demonstrated. She recently had a complete hysterectomy, at which time there was no evidence of any other abnormality in the abdomen. A number of years ago she had an attack of pyelitis but has been free from it until subsequent to this last operation, and, while still in the hospital, she had another severe attack. This has been repeated during the last two months, with several attacks with chills and fever, but they do not last long. She has been under treatment with prontylin (sulfanilamide) and prontosil (the disodium of salt of 4-sulfamido-phenyl-2′-azo-7′-acetylamino-1′-hydroxynaphthalene-3′,6′ disulfonic acid) and mandelic acid, alkalization and the like. Recently a specimen of urine was sent to a laboratory in New York and returned with the statement that it showed an ameboid growth with pear-shaped flagella thought to be Trichomonas vaginalis. It was not a catheterized specimen but a vaginal plug was used so as to get no contamination. These were found again subsequently, and were followed by an attack of chills and fever. I believe that it is a fact that this growth does invade the bladder and attaches itself to the bladder wall, but I am wondering if it is known whether they progress up to the kidney pelvis and do the same thing there? If this is true, what is the treatment? I will appreciate any advice you can give me in reference to this.

M.D., Wisconsin.

ANSWER.—From the history and observations given, there are still other possibilities than that of Trichomonas vaginalis pyelitis. The organism in question may be closely imitated by the so-called Bodo caudatus. This organism carries two flagella instead of the four of Trichomonas, is considerably smaller and cigar shaped and has no undulating membrane. It is frequently a contaminant of urine that has been allowed to stand for some time. In order to make a diagnosis Trichomonas pyelitis the trichomonas organism should be discovered in a freshly obtained catheterized specimen from the suspected kidney. If this is not possible, at least a bladder specimen should be positive for this organism. A good way to find Trichomonas in a smear is to mix one drop of 0.1 per cent of saffron with a thoroughly centrifuged sediment of the suspected urine. When examined wet under coverglass, Trichomonas will appear clear.

Retrograde pyelography with plates made in both horizontal and upright positions are also indicated, together with cultures of each kidney.

Trichomonas pyelitis is a rare condition but a few cases have been reported. Suggested treatment is lavage of the affected kidney pelvis with 2 per cent mercurochrome once or twice a week followed by vesical instillation of 1:1,000 silver nitrate. Also it is of value to lower the p_H by the use of ammonium chloride, sodium acid phosphate or whatever acidifying agent is available. It might also be suggested that lavage of the kidney could be done with 1 per cent silver nitrate. The source of infection should be looked for in the cervix and vagina and in the genitals of the male sexual partner.

PREGNANCY AND MARITAL SYPHILIS

To the Editor:—A secundigravida-primipara aged 25 expects confinement May 10. Her husband contracted syphilis four years ago (prior to marriage) and, because of lack of cooperation, has received only spasmodic treatments for the disease; consequently the Wassermann reaction of his blood is still 4 plus. The patient's Wassermann reaction has always been negative; however, because of the husband's history, she received adequate and accepted therapy during her first pregnancy, which terminated in a stillbirth, the baby being grossly normal and the placenta negative for spirochetes. Labor was easy and spontaneous. The patient is now four and one-half months pregnant. Her Wassermann reaction is negative and the husband's is 4 plus. Should this patient be treated as having syphilis in order to insure the birth of a living child? If she never did contract syphilis from the husband (he had been partially treated), would injections of neoarsphenamine or bismuth or both have an actual harmful effect on the fetus or mother or both? In short, should this woman receive antisyphilitic therapy? Any suggestions would be greatly appreciated.

FRANK J. CLARKE, M.D., Brooklyn.

ANSWER.—Naturally if this patient did not have syphilis injections of neoarsphenamine and bismuth would not be necessary. It is not felt that they would have any harmful effect on the fetus or mother, however, and since the husband's syphilis is of such recent date—five or six years at the most—he is still in the period of possible relapse. Also, since he had inadequate treatment, it seems advisable to treat the patient up until the birth of the child. In a case of this type it probably would be well to have an exclusion test done on the mother. It may be that, because of her pregnancy, the disease is partially under control for the time being and that the test would reveal nothing but that she has a low grade type of syphilis. On that account and because of the possible danger to the child, treatment for syphilis is recommended. It should be started with a course of arsenicals, followed with a short course of bismuth and ending up with arsenicals until the birth of the child.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

ALABAMA: Montgomery, June 20-22. Sec., Dr. J. N. Baker, 517 Dexter Ave., Montgomery.

ARIZONA: *Basic Science.* Tucson, June 20. Sec., Dr. Robert L. Nugent, Science Hall, University of Arizona, Tucson. *Medical.* Phoenix, July 5-6. Sec., Dr. J. H. Patterson, 826 Security Bldg., Phoenix.

ARKANSAS: *Medical (Regular).* Little Rock, June 8-9. Sec., State Medical Board of the Arkansas Medical Society, Dr. L. J. Kosminsky, 317 State Line, Texarkana. *Medical (Eclectic).* Little Rock, June 8-9. Sec., Dr. Clarence H. Young, 1415 Main St., Little Rock.

CALIFORNIA: *Written examinations.* San Francisco, July 10-13, Los Angeles, Aug. 7-10, and Sacramento, Oct. 16-19. *Oral examinations* (required when reciprocity application is based on a state certificate or license issued ten or more years before filing application in California), Los Angeles, August 7, and San Francisco, Nov. 15. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO: *Basic Science.* Denver, June 7-8. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver. *Medical.* Denver, July 10-12. *Applications must be filed on or before June 20.* Sec., Dr. Harvey W. Snyder, 831 Republic Bldg., Denver.

CONNECTICUT: *Basic Science.* New Haven, June 10. *Prerequisite to license examination.* Address State Board of Healing Arts, 1895 Yale Station, New Haven. *Medical (Regular).* Hartford, July 11-12. *Endorsement.* Hartford, July 25. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden. *Medical (Homeopathic).* Derby, July 11-12. Sec., Dr. Joseph H. Evans, 1488 Chapel St., New Haven.

DELAWARE: Dover, July 11-13. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, 229 S. State St., Dover.

DISTRICT OF COLUMBIA: *Basic Science.* Washington, June 26-27. *Medical.* Washington, July 10-11. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: Jacksonville, June 19-20. Sec., Dr. William M. Rowlett, Box 786, Tampa.

GEORGIA: Atlanta, June 7-8. Joint-Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

IDAHO: Boise, Oct. 3-4. Dir., Bureau of Occupational License, Mr. H. B. Whittlesey, State Capitol Bldg., Boise.

ILLINOIS: Chicago, June 20-22 and Oct. 17-19. Superintendent of Registration, Department of Registration and Education, Mr. Homer J. Byrd, Springfield.

INDIANA: Indianapolis, June 20-22. Sec., Board of Medical Registration and Examination, Dr. J. W. Bowers, 301 State House, Indianapolis.

IOWA: *Medical.* Iowa City, June 6-8. *Basic Science.* Des Moines, July 11. Dir., Division of Licensure and Registration, Mr. H. W. Grefe, State Department of Health, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 13-14. Sec., Board of Medical Registration and Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: Louisville, June 7-9. Sec., State Board of Health, Dr. A. T. McCormack, 620 S. Third St., Louisville.

LOUISIANA: New Orleans, June 1-3. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 11-12. Sec., Board of Registration of Medicine, Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Medical (Regular).* Baltimore, June 20-23. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Medical (Homeopathic).* Baltimore, June 20-21. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MASSACHUSETTS: Boston, July 11-13. Sec., Board of Registration in Medicine, Dr. Stephen Rushmore, 413-F State House, Boston.

MICHIGAN: Ann Arbor and Detroit, June 14-16. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 100 W. Allegan St., Lansing.

MINNESOTA: *Basic Science.* Minneapolis, June 6-7. Sec., Dr. J. Charnley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis. *Medical.* Minneapolis, June 20-22. Sec., Dr. Julian F. Du Bois, 350 St. Peter St., St. Paul.

MISSISSIPPI: Jackson, June 21-22. Asst. Sec., State Board of Health, Dr. R. N. Whitfield, Jackson.

MISSOURI: St. Louis, June 1-3. Sec., State Board of Health, Dr. Harry F. Parker, State Capitol Bldg., Jefferson City.

MONTANA: *Reciprocity.* Helena, Oct. 2. *Examination.* Helena, Oct. 3-4. Sec., Dr. S. A. Cooney, 216 Power Block, Helena.

NEBRASKA: Omaha, June 8-9. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEW HAMPSHIRE: Concord, Sept. 14-15. Sec., Board of Registration in Medicine, Dr. T. P. Burroughs, State House, Concord.

NEW JERSEY: Trenton. June 20-21. Sec., Dr. Earl S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, Oct. 9-10. Sec., Dr. Le Grand Ward, 135 Sena Plaza, Santa Fe.

NEW YORK: Albany, Buffalo, New York, and Syracuse, June 26-29. Chief, Bureau of Professional Examinations, Mr. Herbert J. Hamilton, 315 Education Building, State Education Department, Albany.

NORTH CAROLINA: Raleigh, June 19. Sec., Dr. William D. James, The Hamlet Hospital, Hamlet.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, 4½ S. Third St., Grand Forks.

OHIO: Columbus, June 6-9. Sec., State Medical Board, Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA: Oklahoma City, June 14. Sec., Dr. James D. Osborn Jr., Frederick.

OREGON: *Medical.* Portland, June 20-22. Sec., Dr. Joseph F. Wood, 509 Selling Bldg., Portland. *Basic Science.* Corvallis, July 8, and Portland, Oct. 28. Sec., State Board of Higher Education, Mr. Charles D. Byrne, University of Oregon, Eugene.

PENNSYLVANIA: *Written.* Philadelphia and Pittsburgh, beginning July 5. *Bedside.* Philadelphia, July 7-8. Dir., Bureau of Professional Licensing, Dr. James A. Newpher, 358 Education Bldg., Harrisburg.

PUERTO RICO: Santurce, Sept. 5. Sec., Dr. O. Costa Mandry, Box 3854, Santurce.

RHODE ISLAND: Providence, July 6-7. Sec., Dr. Robert M. Lord, 366 State Office Bldg., Providence.

SOUTH CAROLINA: Columbia, June 27. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Rapid City, July 18-19. Director, Medical Licensure, Dr. G. J. Van Heuvelen, State Board of Health, Pierre.

TENNESSEE: Memphis, June 15-16. Sec., Dr. H. W. Qualls, 130 Madison Ave., Memphis.

TEXAS: Austin, June 19-21. Sec., Dr. T. J. Crowe, 918 Mercantile Bldg., Dallas.

UTAH: Salt Lake City, June 26-28. Dir., Department of Registration, Mr. G. V. Billings, 326 State Capitol Bldg., Salt Lake City.

VERMONT: Burlington, June 14-16. Sec., Board of Medical Registration, Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 21-23. Sec., Dr. J. W. Preston, 30½ Franklin Road, Roanoke.

WEST VIRGINIA: Bluefield, July 5. Sec, Public Health Council, Dr. Arthur E. McClue, State Capitol, Charleston.

WISCONSIN: *Basic Science.* Milwaukee, June 3. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Ave., Milwaukee. *Medical.* Milwaukee, June 27-30. Sec., Dr. Henry J. Gramling, 2203 S. Layton Blvd., Milwaukee.

WYOMING: Cheyenne, May 31. Sec., Dr. G. M. Anderson, Capitol Bldg., Cheyenne.

NATIONAL BOARD OF MEDICAL EXAMINERS SPECIAL BOARDS

Examinations of the National Board of Medical Examiners and Special Boards were published in THE JOURNAL, May 20, page 2086.

Washington January Examination

Mr. Dave S. Cohn, acting director, Department of Licenses, reports the written examination held by the State Board of Medical Examiners at Seattle, Jan. 9-11, 1939. The examination covered seven subjects and included seventy questions. Thirteen candidates were examined, all of whom passed. Seven physicians were licensed by reciprocity and four physicians were licensed by endorsement after an oral examination. The following schools were represented:

School	PASSED	Year Grad.
College of Medical Evangelists		(1938)
Northwestern University Medical School		(1938), (1938)*
Rush Medical College		(1937)
University of Illinois College of Medicine		(1926)
Harvard Medical School		(1925)
Tufts College Medical School		(1921)
Ohio State University College of Medicine		(1938)†
University of Oregon Medical School		(1938)†
Dalhousie University Faculty of Medicine		(1935)
McGill University Faculty of Medicine		(1934)
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin		(1931)
Rheinische Friedrich-Wilhelms-Universität Medizinische Fakultät, Bonn		(1920)

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Stanford University School of Medicine		(1935) (1936)	California, Minnesota
University of Colorado School of Medicine		(1933)	Colorado
Washington University School of Medicine		(1932)†	Missouri
University of Oregon Medical School		(1937)	Oregon
University of Pennsylvania School of Medicine		(1933)	Minnesota
University of Wisconsin Medical School		(1936)	California

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
College of Medical Evangelists		(1938), (1938)†	N. B. M. Ex.
Harvard Medical School		(1932)	N. B. M. Ex.
University of Oregon Medical School		(1934)	N. B. M. Ex.

* This applicant has received the M.B. degree and will receive the M.D. degree on completion of internship. License has not been issued.

† License has not been issued.

Rhode Island January Examination

Mr. Robert D. Wholey, chief, Division of Examiners, reports the oral, written and practical examination held by the Board of Examiners in Medicine at Providence, Jan. 5-6, 1939. The examination covered twenty subjects and included fifty questions. An average of 80 per cent was required to pass. Seven candidates were examined, all of whom passed. Seven physicians were licensed by endorsement after an oral examination. The following schools were represented:

School	PASSED	Year Grad.
Georgetown University School of Medicine		(1937)
Johns Hopkins University School of Medicine		(1936)
Tufts College Medical School		(1932), (1937)
Temple University School of Medicine		(1934)
University of Virginia Department of Medicine		(1937)
Université de Genève Faculté de Médecine		(1936)

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Yale University School of Medicine		(1937)	N. B. M. Ex.
Georgetown University School of Medicine		(1935)	N. B. M. Ex.
Johns Hopkins University School of Medicine		(1935)	N. B. M. Ex.
Harvard Medical School		(1933)	N. B. M. Ex.
Tufts College Medical School		(1937, 2)	N. B. M. Ex.
Université de Lausanne Faculté de Médecine		(1920)	N. B. M. Ex.

New York Endorsement Report

Mr. Herbert J. Hamilton, chief, Bureau of Professional examinations, reports forty-two physicians licensed by endorsement from Jan. 9 through Feb. 14, 1939. The following schools were represented:

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Arkansas School of Medicine		(1925)	Puerto Rico
College of Medical Evangelists		(1931), (1938)	N. B. M. Ex.
Yale University School of Medicine		(1934), (1936)	N. B. M. Ex.
Georgetown University School of Medicine		(1936, 2), (1937, 2)	N. B. M. Ex.
Loyola University School of Medicine		(1938)	New Jersey
University of Louisville School of Medicine		(1936)	N. B. M. Ex.
Tulane University of Louisiana School of Medicine		(1918)	Louisiana
Johns Hopkins University School of Medicine		(1930) (1934)	Connecticut, Maryland
University of Maryland School of Medicine and College of Physicians and Surgeons		(1937)	Maryland
Harvard Medical School		(1923)	N.B. M. Ex., (1934) Ohio
Tufts College Medical School		(1934)	New Jersey
University of Minnesota Medical School		(1932)	Minnesota
St. Louis University School of Medicine		(1938)	Tennessee
Albany Medical College		(1935)	N. B. M. Ex.
Columbia University College of Physicians and Surgeons		(1932), (1937)	N. B. M. Ex.
Cornell University Medical College		(1937)	Virginia
Long Island College of Medicine		(1935)	N. B. M. Ex.
New York Medical College and Flower Hospital		(1937, 3)	N. B. M. Ex.
New York University College of Medicine		(1936)	N. B. M. Ex.
University of Buffalo School of Medicine		(1931)	N. B. M. Ex.
Eclectic Medical College, Cincinnati		(1938)	Ohio
University of Cincinnati College of Medicine		(1934)	Ohio
Hahnemann Medical College and Hospital of Philadelphia		(1936)	New Jersey
University of Pennsylvania School of Medicine		(1934)	N. B. M. Ex.
University of Toronto Faculty of Medicine		(1929)	Ontario
Medizinische Fakultät der Universität Wien		(1923) (1925)	New Jersey, Austria
National University of Athens School of Medicine		(1920)	Ohio
Regia Università degli Studi di Catania. Facoltà di Medicina e Chirurgia		(1936)	New Jersey
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia		(1936)	New Jersey
Regia Università di Napoli Facoltà di Medicina e Chirurgia		(1932)	New Jersey
First Moscow Medical Institute		(1921)	U. S. S. R.

Ohio Reciprocity and Endorsement Report

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports seventeen physicians licensed by reciprocity and two physicians licensed by endorsement, Jan. 17, 1939. The following schools were represented:

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Loyola University School of Medicine		(1935), (1938)	Illinois
Rush Medical College		(1936)	W. Virginia
State University of Iowa College of Medicine		(1931)	Iowa
University of Louisville School of Medicine		(1936)	Kentucky
Harvard Medical School		(1937)	Maine
University of Michigan Medical School		(1936)	Michigan
St. Louis University School of Medicine		(1938)	Missouri
Washington University School of Medicine		(1938)	Missouri
Syracuse University College of Medicine		(1926), (1928)	New York
University of Oklahoma School of Medicine		(1935)	Oklahoma
University of Pittsburgh School of Medicine		(1912), (1930)	Penna.
Woman's Medical College of Pennsylvania		(1937)	Penna.
University of Wisconsin Medical School		(1936)	Louisiana
Regia Università degli Studi di Firenze. Facoltà di Medicina e Chirurgia		(1936)	New York

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Harvard Medical School		(1920)	N. B. M. Ex.
University of Oregon Medical School		(1931)	N. B. M. Ex.

South Dakota January Report

Dr. G. J. Van Heuvelen, director, Medical Licensure, reports the written examination held at Pierre, Jan. 17-18, 1939. The examination covered thirteen subjects and included 100 questions. An average of 75 per cent was required to pass. Four candidates were examined, all of whom passed. One physician was licensed by reciprocity and one physician was licensed by endorsement. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
College of Physicians and Surgeons of Chicago		(1905)	76.1
School of Medicine of the Division of Biological Sciences		(1936)	88.9
University of Minnesota Medical School		(1935)	86.7
Creighton University School of Medicine		(1933)	88.7

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Rush Medical College		(1934)	W. Virginia

School	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Minnesota Medical School		(1937)	N. B. M. Ex.

Book Notices

Lead in Food. By G. W. Monier-Williams, O.B.E., M.C., M.A., Ministry of Health, Reports on Public Health and Medical Subjects, No. 88. Paper. Price, 1s. Pp. 51. London: His Majesty's Stationery Office, 1938.

The problem of lead in foods is attracting a great deal of attention and the British Ministry of Health deserves credit for sponsoring the present brief but authoritative account of what is known about the subject. The author has reviewed the literature on the absorption, excretion and storage of lead in the body. The section on lead in the body includes a discussion of the use of alloys, solders, enamels and glazes containing lead in connection with the manufacture, storage, transportation or cooking of food; the use of ingredients in the production of which materials containing lead have been used, or which have been manufactured in lead lined vessels; the presence on fruits and vegetables of spray residues containing lead arsenate or other lead compounds; the exposure of food to dust containing lead, such as that produced by the weathering of lead paint, and the amount of lead in sea foods. The author describes a modification of the diphenylthiocarbazone (or dithizone) method for the determination of minute amounts of lead. The lead is isolated from the ashed material by means of dithizone but subsequently is converted to the sulfate and finally estimated colorimetrically as the sulfide. Data are provided on the lead content of a number of foods as determined by this method. In a list of 118 foods analyzed, thirty-five are reported as having a lead content that is nil. In the light of recent investigations in the United States, practically every food that has been examined has been found to contain a detectable amount of lead. It would seem that the author's method was not sensitive enough to detect the traces which other methods have been able to determine. There is considerable interest to the author's conclusion about the limits for lead in foods from the point of view of public health. The opinion is advanced that a total intake of 1 mg. of lead daily, presumably by adults, must be regarded with suspicion and efforts should be made to eliminate the sources of lead.

Leben und Ernährung. Von Dr. Max Winckel. Bücher der Hygiene und Volksernährung, Band I. Herausgegeben von Max Winckel. Paper. Price, 1.80 marks. Pp. 86. Berlin: Deutsche Verlagsgesellschaft m. b. H., 1938.

During times of stress proclamations are issued by governments or words of advice are offered by patriotic individuals which relate to the selection of foods. Usually the suggestions are bad in either case. They can be excused only because of the exigencies of the situations which produce them. More than a century ago there occurred the famous recommendation made in France about subsistence on gelatin, which two scientific commissions later showed to be impossible. More recently there were during the World War restrictions on the dietary habits of all people. Even America felt the effects to a moderate extent. Recipe booklets for wheatless bread are interesting items for the collection of any nutritionist interested in the history of diets. So also are accounts of disasters resulting from the misguided advice to eat such substances as rhubarb leaves. The accounts of human dietaries in Germany and Austria during the World War are replete with examples of the horrible effects of war, particularly on children. The present book of dietary advice to the German people may be excusable on the basis of what must be done to feed the people, but it is neither scientific nor completely accurate. It is understood from the foreword that it is the first of a series of monographs on food products intended for the average German reader. The other monographs in the series will be on the garden and health, biochemistry of the kitchen, the daily diet of the family, diet kitchens and subsistence of the masses, and nutrition of the mother and child. The present book is a tract devoid of illustrations or charts but containing many italicized statements. It is obviously propaganda by the German state to persuade people that restriction of calories and the eating of foods which are available rather than those which are more difficult to obtain is nutritionally advantageous. The reader is told repeatedly that it is his responsibility to the state to maintain himself in excellent nutritive condition. This is to be done by reducing the daily intake of calories and increasing the consumption of those products which are readily available in present day Germany. It is recommended that the fat content of the diet should be reduced from its present average level for the adult of 100 Gm. daily to 80 Gm. and that the calories should be reduced from 3,200 to 2,900 each day. It is also recommended that the daily protein content of the diet should be reduced to 80 Gm. and should be secured from milk and potatoes instead of meat. For the most part coffee and tobacco are banned. While some of the arguments presented have some factual basis, for many assertions the support is relatively poor. But the reader is assured that by following the advice which is given he will aid the führer in his "deliverance" program for national socialist Germany.

The Surgery of Oral and Facial Diseases and Malformations: Their Diagnosis and Treatment Including Plastic Surgical Reconstruction. By George Van Ingen Brown, D.D.S., M.D., C.M., Plastic Surgeon, Children's, St. Mary's, Columbia, and Milwaukee County Hospitals, Milwaukee, Wisconsin. Fourth edition. Cloth. Price, $10. Pp. 778, with 1,031 illustrations, including 12 colored plates. Philadelphia: Lea & Febiger, 1938.

Although this edition contains a few less pages than previous editions, it is much more complete. The author has utilized his extensive clinical experience with pathologic conditions about the head and neck, and especially of the face and mouth, to present what comprises largely the sum and substance of present day information concerning faciomaxillary diseases and surgical procedures for their alleviation. As stated in the preface, the subjects are presented in such order and with sufficient descriptive matter that the book is well adapted to students' requirements in classroom instruction; at the same time it is suitable for practitioners. It is also arranged in such a manner as to supply a reliable source of reference for the diagnosis and treatment of pathologic changes in the oral and facial regions and also to serve as an operative guide for those specializing in the surgical procedures of these regions. The chapters dealing with oral and facial neoplasms and diseases of other types have been revised and condensed, and a number of chapters concerned with plastic operations of the various portions of the face and neck have been added. In addition the chapters on harelip, cleft palate and other congenital defects and deformities have been made more complete. The text is elucidated and rendered more graphic by a greatly increased number of illustrations, which are decidedly better than those contained in previous editions. A number, however, and especially some of the colored plates, do not approach the high standard of the rest of the work. In general the subject matter is clearly and concisely presented, and the author is an authority in this field. The book should be a valuable addition to any medical library.

An Introduction to Bacteriological Chemistry. By C. G. Anderson, Ph.D., D.Bact., Lewis Cameron Teaching Fellow, Bacteriology Department, University of Edinburgh. Cloth. Price, $4. Pp. 278. Baltimore: William Wood & Company, 1938.

This well written, compact and well organized textbook is the outcome of a course of lectures on the subject. The first five chapters discuss hydrogen ion concentration, oxidation-reduction and the general composition of bacteria, fungi and yeasts briefly but clearly. The next four chapters deal with the nutrition of bacteria, treating growth factors, autotrophic and heterotrophic bacteria, and adaptive and constitutive enzymes. The subject of bacterial respiration is especially well developed from the point of view of the fundamental chemical reactions involved. Nitrogen metabolism is discussed from the point of view of assimilation, sparing action and the usual paths of deaminization and step by step oxidation. Carbohydrate metabolism and alcoholic fermentation are presented from the truly modern biochemical view. The specific and remarkable activities of some fungi in fermentation processes and some of the industrial applications are considered briefly. The proteins of micro-organisms and lipins are treated briefly but satisfactorily. The polysaccharides in these forms are discussed satisfactorily under the subdivisions of true complex polysaccharides and specific soluble aldobionic acid derivatives. The unsatisfactory state of our knowledge of the chemistry of bacterial pigments is emphasized. Antigens, haptens, antibodies, complement and the mechanism of antigen-antibody reactions the

author treats in the main on the chemical basis, which has developed as a result of Landsteiner's investigations. A practical discussion of the isolation and identification of metabolic products and an excellent index close the book. The author rarely refers to original papers, but in most cases the chapters close with a few references to monographs or review articles. Every bacteriologist and biochemist could well afford to read this brief but excellent treatment of a complex and rapidly developing aspect of bacteriology.

Der Rheumatismus: Sammlung von Einzeldarstellungen aus dem Gesamtgebiet der Rheumaerkrankungen. Herausgegeben von Professor Dr. Rudolf Jürgens, Stellv. Direktor der Universitätsklinik für natürliche Heil- und Lebensweisen Berlin. Band I: Übungstherapie bei rheumatischen Erkrankungen. Von Geheimem Sanitätsrat Dr. P. Köhler. Band II: Anleitung zur klinischen Analyse des infektiösen Rheumatismus. Von Professor Dr. med. A. Slauck, Chefarzt des Landesbades und Leiter des Rheumaforschungsinstituts in Aachen. Boards. Price, 5 marks each. Pp. 100, with 22 illustrations; 78, with 6 illustrations. Dresden & Leipzig: Verlag von Theodor Steinkopff, 1938.

The author believes that physical and occupational therapy play an important part in the treatment of rheumatism; therapy serves as an aid to physiologic healing. One chapter is devoted to the functional role of bones, joints, muscles and nerves. The formulation of a logical plan of action is necessary for each case. The questions which must be considered specifically are the need for rest or exercise, position, the use of traction, extension or hyperextension and the application of some form of strapping or bandage. A good expository outline briefly evaluates passive and active exercises, both local and general, relaxation, circulatory factors, combination exercises and group exercises. Chronic arthritis can be alleviated by specific forms of physical therapy. The final chapter in the first volume consists of an outline of regional exercises and may serve as a ready reference for routine procedures. The second volume is by Dr. Slauck, who is chief of the national baths and head of the research institute for rheumatism at Aachen. His purpose is to clear a way for the general practitioner through the confusion, since the general practitioner is the first to see patients with rheumatism and is in a position to institute early therapy. Prophylaxis is difficult, since one cannot anticipate which source or focus will give rise to the rheumatic condition. Slauck believes that acute rheumatic fever has a focal source of infection. The chief foci, in his opinion, are sinuses, teeth and tonsils, which cause a "focal toxicosis" which spreads by the hematogenous route. In cases of early involvement the foci must be found and eradicated before any other treatment is considered. This is true also in cases of chronic rheumatism, but physical therapy and balneotherapy may be started at once. The author states that too much should not be expected of antifocal therapy.

Pathologische Histologie: Ein Unterrichtskurs für Studierende und Ärzte. Von Dr. Max Borst, o. ö Professor der allgemeinen Pathologie und der pathologischen Anatomie an der Universität München. Third edition. Paper. Price, 75 marks. Pp. 522, with 361 illustrations. Berlin: Julius Springer, 1938.

This textbook, which first appeared in 1921, was described by Borst as an attempt to develop a book which would emphasize pathologic histology. He said at that time, furthermore, that a better understanding of etiology, pathogenesis and function would require a more detailed microscopic analysis of morbid processes. This edition is an amplification of the material with these ends in view. Almost all the illustrations are in color. They are, however, not photomicrographs but are mostly drawings which at best are poor substitutes for reality. The book deals essentially with special pathology, and no attempt is made to present a general point of view. The author has given a brief and incomplete description of the normal structure of each organ, seemingly an unnecessary feature for the student, who presumably has studied histology before beginning his studies of pathology. The general treatment of the particular diseases is extremely brief and there are no references to the works of others. The main value lies in the concentration on histologic pathology, and many pathologists will be interested in the way Borst handles this phase of pathology. As a textbook for American students, however, the book is entirely too skimpy and inadequate to be of much value.

The British Encylopaedia of Medical Practice Including Medicine, Surgery, Obstetrics, Gynaecology and Other Special Subjects. Under the General Editorship of Sir Humphry Rolleston, Bt., G.C.V.O., K.C.B., M.D. Volume X: Poisons Legislation to Rosacea. Cloth. Price, $12. Pp. 688, with 91 illustrations including 11 plates. Toronto & London: Butterworth & Co. (Publishers), Ltd., 1938.

This volume covers such important topics as poliomyelitis, postmortem examinations, pregnancy, diseases of the prostate, psychiatry and psychoanalysis, pyelitis, radiology, refraction, resuscitation and rheumatic infection. The consistency and uniformity of the discussions are amazing when one considers the vast scope of the encyclopedia. It is perhaps due to the general editorship of Sir Humphry Rolleston and the high order of the groups of consultants and associate editors that this result has been achieved. Unfortunately this volume suffers, as have other encyclopedias, from the fact that medical progress is now so rapid that some of the material is well nigh obsolete by the time it is published. Thus the article on poliomyelitis makes no reference whatever to the recent attempts to block the path of entry by caustic solutions, nor is there any reference in the article on psoriasis to recent endeavors to control the condition by high doses of vitamin.

A Textbook of Neuro-Radiology. By Cecil P. G. Wakeley, D.Sc. F.R.C.S., F.R.S.E., Senior Surgeon, King's College Hospital and West End Hospital for Nervous Diseases, and Alexander Orley, M.D., D.M.R.E., Radiologist, West End Hospital for Nervous Diseases, London. Cloth. Price, $8. Pp. 336, with 229 illustrations. Baltimore: William Wood & Company, 1938.

An adequate compendium of neuroradiology would be welcome to neurologists as well as to roentgenologists. However, this volume, a first attempt at supplying the need, does not succeed. The text contains many quotations from the literature but does not impress one as representing a thorough and detailed experience in the field. Further evidence for this assumption is the paucity of good illustrative roentgenograms of the skull demonstrating individual pathologic processes. The text is written in a terse style and conditions of interest are too briefly discussed. The book is not a substitute for a knowledge of the literature. It is not highly recommended but may be of some use for beginners in the field until they acquire personal experience.

Silikosen i den danske Industri. Af V. Stub-Christensen. [Silicosis in Danish Industry.] Denne Afhandling er af det lægevidenskabelige Fakultet antaget til offentlig at forsvares for den medicinske Doktorgrad, København. Paper. Pp. 312, with 70 illustrations. Copenhagen: Levin & Munksgaard, 1937.

A thesis in connection with the acquisition of a doctor of medicine degree, this book embraces a three year study at the Silkeborg Sanatorium in Denmark. The period of observation ended in 1932, although publication was not made until 1937. The author says that much less concern was exercised over silicosis, asbestosis and other forms of pneumoconiosis in Denmark than in several other countries. Appraised at this later time, his own grasp of such diseases and his understanding of the underlying pathologic change appear to have been far in advance of the general level throughout the world in 1931. The major industries studied were sandblasting, molding (foundries), stone cutting, sandstone and granite cutting, millstone work, cement making, the manufacture of cleansing powders, metal grinding, including instrument grinding, and brick making. The book has four major divisions: the general clinical and laboratory aspects of dusty lung diseases, a description of the industries involved, a careful recording of case histories by industries, and the presentation of seventy beautiful illustrations, chiefly roentgenograms but including reproductions of gross and microscopic tissue preparations. The lament often arises that roentgenograms of silicotic chests cannot be produced with high fidelity. The ones in this book are far superior to those usually found. There is a fine presentation of the cases of 300 disabled workers, of whom 70 per cent were decidedly disabled and 30 per cent mildly so. Sixty-two per cent had silicosis, 3 per cent tuberculosis alone and 13 per cent silicotuberculosis. Because of language difficulties the book cannot be generally recommended to the physicians of the United States, but for physicians, public health workers and others concerned in the international aspects of dusty lung diseases here is the Danish entry.

A Textbook of Pathology for Use in Schools of Nursing. By Armin V. St. George, M.D., Lecturer in Pathology, Bellevue School of Nursing, New York City. Second edition. Cloth. Price, $1.75. Pp. 238, with 29 illustrations. New York: Macmillan Company, 1938.

The author presents pathology clearly, covering the majority of the material that is included in the standard textbooks. In great part it is expressed in a form that is too brief and inadequate for present day teaching requirements in training schools for nurses. The chapter on the urinary tract stands out above the others. There is an anatomic, physiologic, pathologic and clinical correlation which gives one a fairly good insight into the various entities included under the broad heading Bright's disease. The concluding chapter is an added useful feature describing essentially clinical pathologic methods and their interpretations.

Laboratory Manual of Hematologic Technic Including Interpretations. By Regena Cook Beck, M.A., M.D., Pathologist to Stuart Circle Hospital and Director of the Stuart Circle Hospital School of Medical Technology, Richmond, Virginia. With a foreword by Frank W. Konzelmann, M.D., Professor of Clinical Pathology, Temple University, Philadelphia, Pa. Cloth. Price, $4. Pp. 389, with 79 illustrations. Philadelphia & London: W. B. Saunders Company, 1938.

A number of concise and comprehensive textbooks on hematology have recently been written, but this is the first comprehensive textbook on hematologic technic. While written expressly as a manual for technicians, it will undoubtedly find a greater field of usefulness. The data are current and well organized. The author has been able by careful editing to present a maximum amount of well illustrated material in a minimum of space. At the end of each chapter are lists of questions for the purpose of aiding the reader to fix the salient facts. Lists of defined terms throughout the book will enable the technician to become familiar with a workable hematologic vocabulary. The book is highly recommended as a hematologic manual for laboratory technicians and a convenient source of information on hematologic procedures for medical students and physicians.

Reflektorische und algetische Krankheitszeichen der inneren Organe. Von Professor Dr. K. Hansen und Dr. H. von Staa. Paper. Price, 26 marks. Pp. 270, with 127 illustrations. Leipzig: Georg Thieme, 1938.

This monograph is concerned with the well known investigations of Head and Mackenzie, some of the observations of Knotz and further observations by the authors on reflex and pain symptoms in diseases of various organs. The introduction deals with the historical development of the subject. The next discussion is devoted to methods. The difference in the size of the pupils was recorded by infra-red photography. The photographs are instructive and sharply defined. Many physicians will be surprised at the finding of mydriasis on the same side in 88 per cent of all cases of unilateral organic disease. Other unilateral symptoms noted were widening of the palpebral aperture, facial spasm, postural changes, asymmetrical respiratory motions, and herpes. The authors describe their technic of detecting differences in tissue tension (besides muscle). Vasomotor disturbances, pilomotor reflexes, referred pain and, finally, the so-called viscerovisceral reflexes are described. The greatest part of the monograph is devoted to case reports and tables concerning reflex and pain symptoms of disease in various organs. There are abundant schematic diagrams and an adequate bibliography. The basic clinical material is well documented and analyzed, and the neurologic analysis of the described symptoms is well done. The monograph represents a carefully conducted study which should interest a large number of practicing physicians.

Mental Nursing in Observation Wards. By I. M. Sclare, L.R.C.P.S., Mental Observation Wards, Stobhill Hospital, Glasgow, N. Foreword by A. S. M. Macgregor, O.B.E., M.D., D.P.H., Medical Officer of Health, Glasgow. Cloth. Price, $2. Pp. 259. Baltimore: William Wood & Company, 1938.

This volume was written for a special group of nurses, those who are working with mental patients in general hospitals. It does not seem to fit its purpose adequately and is probably not as good a book for educating mental ward nurses as those produced in this country by Sands and Noyes. It is a brief summary of the various types of psychoses. Not much detail is given in the matter of nursing and the special care of patients. A short chapter dealing with what the author calls normal psychology is a much too brief sketch of basic psychodynamics. The chapter on the anatomy and physiology of the nervous system is too short to be of much value. The last chapter is even more cursory and deals with the duties of nurses in mental observation wards. The volume is too inadequate to give a nurse much idea of her duties. Either the work done in the observation wards in the British Isles is not as thorough as that done in hospitals such as Bellevue and Cook County, or this book is not a fair demonstration, for it certainly does not cover the involved technics required for properly dealing with the patients brought into the general hospital to be cured in a short time or to be committed permanently to hospitals for the insane. The style is good and the diction simple, but the book seems to serve no purpose in our American mental health program.

Anatomia del neonato. Da Francesco Bellelli. Prefazione del Prof. Sen. Giulio Salvi. Paper. Price, 30 lire. Pp. 229, with 109 illustrations. Naples: G. U. F. "Mussolini" Sezione Editoriale, 1938.

An "Anatomy of the Newborn" should be a welcome contribution not only to anatomists but to obstetricians and pediatricians as well. Bellelli's book represents one of the first attempts to gather the hitherto scattered data from original articles, textbooks of anatomy and handbooks. The bibliography comprises 163 titles, most of which refer to contributions by Italian authors. The pertinent literature is fairly considered throughout the book, although there are certain omissions. For instance, Scammon and Calkin's valuable data on body dimensions of the newborn are not included. One misses a consideration of specific growth rates and of the relative position of the newborn with respect to prenatal and postnatal growth rates of the body as a whole or of the various systems. Only the general changes in the major proportions between birth and adulthood are discussed. The largest part of the book constitutes a compilation and discussion of previously published observations. Likewise most of the illustrations are taken from previous authors. Their quality leaves something to be desired. It is regrettable that the author has failed to supply much needed original ones in this field in spite of the many dissections which he apparently has made. The book is concerned only with descriptions of gross anatomy and topographic relations. The subject matter is subdivided into ten chapters, on definition of newborn, external form and body proportions, osteology, articulations, myology, angiology, splanchnology, glands of internal secretion, neurology, and skin and sensory organs. The author defines newborn as born at term and having accomplished for the first time all or some of the elemental vital acts.

Archiv und Atlas der normalen und pathologischen Anatomie in typischen Röntgenbildern. Röntgenatlas der Asbestose der Lungen. Von Prof. Dr. Erich Saupe. Fortschritte auf dem Gebiete der Röntgenstrahlen, Ergänzungsband LIV. Herausgegeben von Prof. Grashey. Paper. Price, 19.50 marks. Pp. 99, with 52 illustrations. Leipzig: Georg Thieme, 1938.

In this monograph Saupe introduces his thesis with a brief historical account of the mineral asbestos and a chapter devoted to its geology, mineralogy, chemistry and technology. Subsequent chapters consider the pathologic anatomy of the disease asbestosis, its clinical symptoms, signs, complications, x-ray appearances, prognosis and therapy. There are chapters on the difference in individual susceptibility to the dust, the medical and technical methods for control of the disease and the asbestos body and its clinical significance when found in the sputum. The author stresses the important points adequately. The mineral is classed as a fibrous magnesium silicate which on inhalation causes diffuse fibrosis of the pulmonary tissue. The fibrosis is most pronounced in the interalveolar and interlobular septums of the lung. Clinically there is no characteristic subjective or objective evidence. In cases of far advanced involvement there are often a chronic slightly productive cough, appreciable dyspnea, decreased chest resonance and fine or coarse vesicular breath sounds. The monograph gives a detailed description of the x-ray appearances of the disease. In the early stages, or first degree asbestosis, an increase is noted in the pulmonary markings at the base of the lung. As the disease progresses these markings become more prominent and a fine mottling appears, which in the late stage, or third degree asbestosis, imparts to the roentgenogram a diffuse haziness. These various changes are depicted in the atlas, in which forty-four case histories are presented. The roentgenographic reproductions are exceptionally good, although in numerous instances they do not

allow visualization of the changes described in the text. This is pardonable, since at best it is difficult to reproduce the distinctive morphologic details shown on the x-ray film. The bibliography is recent and sufficient for further study of the subject. The monograph should prove of distinct value to all those who have to do with pulmonary disease due to the inhalation of dust, for it provides a brief and concise discussion of what is known about asbestosis.

Lærebok i generell bakteriologi og serologi. Av Th. Thjøtta, Dr. med. [Textbook on General Bacteriology and Serology.] Cloth. Pp. 384, with illustrations. Oslo: Fabritius & Sønners Forlag, 1938.

The history of bacteriology, the morphology and growth of bacteria, infection and immunity and hypersensibility are considered. The presentation is systematic and comprehensive but not dogmatic. The author is evidently a good teacher; his style is lucid and lively. Besides instructive illustrations of technical matters, mostly photographs, are portraits drawn by the author of many of the investigators referred to in the text, with thumbnail biographic sketches in footnotes. A companion volume will follow, dealing with special bacteriology and immunology. This one gives an excellent summary of general bacteriology and serology in their relation to practical medicine.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Malpractice: Failure to Discover Redislocation of Shoulder Joint.—The plaintiff injured his right shoulder and twelve days later, May 29, employed the defendant, a physician, to treat him. The defendant examined him with the aid of a fluoroscope and found a subglenoid dislocation of the right shoulder joint. The physician, according to his own testimony and that of his nurse, reduced the dislocation by manipulation. He did not examine the plaintiff further to determine whether reduction had been accomplished other than to observe the freedom of movement of the joint when the plaintiff placed his right hand on his opposite shoulder and on the top of his head. There was evidence that he warned the plaintiff of the danger of redislocation and advised him to refrain from working and to return in three days. Later, the plaintiff suffered a redislocation of his right shoulder joint, apparently while still under the care of the defendant although he had also consulted a chiropractor. In September roentgenograms, which the defendant for the first time caused to be taken, showed a dislocation of the right shoulder joint. By that time the muscles of the injured arm had begun to atrophy and an operation, the success of which was doubtful, was necessary if the dislocation was to be reduced.

For failure to discover the redislocation the plaintiff sued the defendant. From an order of the trial court overruling his motion for a directed verdict and from a judgment in favor of the plaintiff, the physician appealed to the Supreme Court of Oklahoma.

The testimony of the two parties as to what occurred was conflicting. The plaintiff claimed that he derived no relief from pain on his first visit to the defendant and that he returned for treatment five or six times during the ensuing four months, always insisting that there was still something wrong with his arm and, until his visit in September, receiving assurances from the defendant to the contrary. The defendant, however, testified that the plaintiff did not return for treatment after May 29 as directed but remained away until September. The Supreme Court could not agree with the defendant's contention that the evidence was insufficient to warrant the trial court in submitting the case to the jury. The testimony adduced by the plaintiff tended to show that the defendant attended the plaintiff at various times between May and September and that the plaintiff's right shoulder joint was redislocated during that period but the physician failed until September to discover its existence. If, said the court, by methods known to the physician a redislocation could have been discovered and he failed to use such methods, then he was guilty of negligence.

Although the medical testimony established that in most cases of this type a physician can ascertain by manipulation, such as the defendant claimed he used, whether or not a shoulder joint is dislocated, some of the testimony tended to show that the use of roentgenograms is probably the best method of making this determination. By his own testimony the defendant in effect admitted that, if there was any doubt as to whether or not a dislocated shoulder had actually been reduced, it would be negligence to fail to take roentgenograms. In the judgment of the court, therefore, the evidence, when considered in the light of every reasonable inference favorable to the plaintiff, was sufficient to raise a question in reasonable minds as to whether or not the defendant had been negligent.

The defendant contended that, even though he was negligent, there was no evidence from which the jury could determine whether the condition of the plaintiff's arm was due to the character of the original injury or to the defendant's lack of care and skill in treating it. This contention, answered the Supreme Court, ignored the undisputed fact that the condition of the dislocated shoulder joint was aggravated by failure to reduce it and by allowing it to remain dislocated for some months, and that the plaintiff's chance of permanent complete recovery was thereby greatly decreased.

In the opinion of the court, the evidence warranted a verdict in favor of the plaintiff. The judgment of the trial court in favor of the patient was therefore affirmed.—*Stagner v. Files (Okla.), 78 P. (2d) 418.*

Society Proceedings

COMING MEETINGS

American Association for Thoracic Surgery, Los Angeles, July 5-7. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.
American Association of Industrial Physicians and Surgeons, Cleveland, June 5-8. Dr. V. S. Cheney, Armour and Company, Union Stock Yards, Chicago, Secretary.
American Dermatological Association, Montebello, Canada, May 31-June 3. Dr. Fred D. Weidman, University of Pennsylvania Medical Laboratories, Philadelphia, Secretary.
American Neurological Association, Atlantic City, N. J., June 5-7. Dr. Henry A. Riley, 117 East 72d St., New York, Secretary.
American Ophthalmological Society, Hot Springs, Va., June 5-7. Dr. Eugene M. Blake, 303 Whitney Ave., New Haven, Conn., Secretary.
American Orthopedic Association, Buffalo, N. Y., June 5-8. Dr. Ralph K. Ghormley, 110 Second Ave. S.W., Rochester, Minn., Secretary.
American Physiotherapy Association, Denver, June 25-30. Mrs. Eloise T. Landis, 2065 Adelbert Road, Cleveland, Secretary.
American Proctologic Society, Brooklyn, N. Y., June 25-27. Dr. Curtice Rosser, 710 Medical Arts Bldg., Dallas, Texas, Secretary.
American Urological Association, White Sulphur Springs, W. Va., May 29-June 1. Dr. Clyde L. Deming, 789 Howard Ave., New Haven, Conn., Secretary.
Maine Medical Association, Poland Springs, June 25-27. Dr. F. R. Carter, 22 Arsenal St., Portland, Secretary.
Massachusetts Medical Society, Worcester, June 6-8. Dr. Alexander S. Begg, 8 Fenway, Boston, Secretary.
Medical Library Association, Newark, N. J., June 27-29. Miss Janet Doe, 2 East 103d St., New York, Secretary.
Minnesota State Medical Association, Minneapolis, May 31-June 2. Dr. B. B. Souster, Lowry Medical Arts Bldg., St. Paul, Secretary.
Montana, Medical Association of, Butte, June 28-30. Dr. Thomas L. Hawkins, 50 North Main St., Helena, Secretary.
National Gastroenterological Association, New York, June 1-2. Dr. G. Randolph Manning, 1819 Broadway, New York, Secretary.
National Tuberculosis Association, Boston, June 26-29. Dr. Charles J. Hatfield, 50 West 50th Street, New York, Secretary.
New Hampshire Medical Society, Manchester, June 8-9. Dr. Carleton R. Metcalf, 5 South State St., Concord, Secretary.
New Jersey, Medical Society of, Atlantic City, June 6-8. Dr. Alfred Stahl, 55 Lincoln Park, Newark, Secretary.
Pacific Coast Oto-Ophthalmological Society, San Francisco, June 19-22. Dr. C. Allen Dickey, 450 Sutter St., San Francisco, Secretary.
Pacific Northwest Medical Association, Spokane, Wash., June 26-29. Dr. C. W. Countryman, 407 Riverside Avenue, Spokane, Wash., Secretary.
Rhode Island Medical Society, Providence, June 7-8. Dr. Guy W. Wells, 124 Waterman St., Providence, Secretary.
Vancouver Medical Association Summer School, Vancouver, B. C., June 6-9. Dr. W. W. Simpson, 203 Medical Dental Bldg., Vancouver, B. C., Secretary.
West Virginia State Medical Association, White Sulphur Springs, July 10-12. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1929 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

Alabama State Medical Assn. Journal, Montgomery

8: 305-344 (March) 1939

Clinical Types of Circulatory Failure and Their Treatment. W. G. Harrison Jr., Birmingham.—p. 305.

Use of Living Fascial Transplants in Certain Types of Hernias. J. L. McGehee, Memphis, Tenn.—p. 309.

Problems in Diagnosis of Hyperthyroidism. T. S. Claiborne, Atlanta, Ga.—p. 316.

Puerperal Sepsis. T. M. Boulware, Birmingham.—p. 318.

American Journal of Diseases of Children, Chicago

57: 489-738 (March) 1939

Giant Cell Pneumonia of Infancy as Manifestation of Vitamin A Deficiency. B. Chown, Winnipeg, Manitoba.—p. 489.

Effects of Whooping Cough on Tuberculosis. M. Siegel, New York, and Esther W. Goldberger, Staten Island, N. Y.—p. 506.

*Hypothyroidism and Cretinism in Childhood: VI. Influence of Thyroid Therapy on Mental Growth. A. W. Brown, I. P. Bronstein and Ruth Kraines, Chicago.—p. 517.

Immunologic Response to Ingestion of Foods by Normal and by Eczematous Infants. V. W. Lippard, New York.—p. 524.

Experimental Paralysis in Monkeys Completely Recovered from Poliomyelitis: Produced by Cultures of Material from Patients with Measles. J. A. Toomey, Cleveland, and H. M. Weaver, Detroit.—p. 541.

Effect of Yeast Extract (Vitamin B Complex) on Growth and Development of Premature Infants. H. R. Litchfield, J. Lichterman, I. Knoll and I. Kurland, Brooklyn.—p. 546.

Growth in Children with Mongolism: Four Year Study of Eight Patients. A. A. Werner, J. Lewald, G. A. Johns and D. Kelling, St. Louis.—p. 554.

*Diphtheria Scratch Test. M. Grozin, Flushing, N. Y.—p. 564.

Anamnestic Reaction of Tuberculin: Preliminary Report. J. B. Novak and J. S. Kruglick, Chicago.—p. 570.

Diabetes Insipidus in Children: Critical Review of Etiology, Diagnosis and Treatment, with Report of Four Cases. J. Warkany and A. G. Mitchell, Cincinnati.—p. 603.

Thyroid Therapy in Hypothyroidism and Cretinism.—Brown and his colleagues studied psychologically twenty-nine cretins and four "juvenile hypothyroid" children who were being actively treated with thyroid. The psychologic tests were given over a period of from one to seven years to determine by quantitative measurement both the amount and the nature of their mental development. These observations support the following conclusions: 1. Cretins if treated are not all predestined to a fixed low mental age. A small proportion of them may develop normally. 2. There is evidence that early recognition of the abnormal condition and active and persistent treatment thereafter are the important factors in producing ultimate mental development. 3. There are a number of factors which may account for the failure of some children to respond to treatment even though it is initiated early. 4. In general, there was a slight increase in the intelligence quotient during the period of treatment. The increase was greatest for those who began treatment early. Even with treatment, most of the children remained severely retarded, having intelligence quotients below 70. The chances are that at maturity their mental level will not be much above 10 or 11 years. 5. There is no evidence that cretins have any special aptitudes or abilities. The retardation seemed general. 6. The mental growth curves seemed to have the same general shape as the curve for the average child except that they were at a lower level. 7. Examination of a number of the siblings indicated that the cretins did not come from families of low intellectual status. 8. In a study of thirteen cretins there appeared to be some relation between development of carpal bones and mental age.

Diphtheria Scratch Test.—The diphtheria scratch test is performed and read in the same manner as the Pirquet test for tuberculosis, except that diphtheria toxin is used. The work that Grozin reports is based on investigations carried out by Reh. The scratch test was performed as a routine on 100 children at the Queens General Hospital and was found to compare favorably with the Schick test. Regardless of the illness for which these patients were admitted to the hospital, there was never any unfavorable reaction to the test. The material used for testing was a toxin containing 30 flocculating units per cubic centimeter, originally of 1,200 minimum lethal doses per cubic centimeter. The results as compared with those of the Schick test were as follows: There was complete agreement in 92 per cent of the cases. In one case there were a positive Schick reaction and a negative reaction to the scratch test. However, this patient had been immunized with 1,200 units of antitoxin after the positive Schick reaction and the scratch test was done several days later. As to the other cases in which there was disagreement, the Schick reaction was negative and the scratch test positive in four cases and the Schick reaction questionably negative and the reaction to the scratch test positive in two cases.

American Journal of Hygiene, Baltimore

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Blood Chemistry in Human Trichinosis. H. B. Pierce, E. Hartman, W. J. Simcox, T. Aitken, A. B. Meservey and W. B. Farnham, Burlington, Vt.—p. 75.

Mortality from Respiratory Diseases.—Herrington and Moriyama studied the statistical relationship between mortality from several diseases of the respiratory system and certain climatic and socio-economic factors in the United States Registration Area (forty-four states) for the period from 1921 to 1930, inclusive. The diseases selected for study were influenza, bronchopneumonia, lobar pneumonia and asthma. In view of the high incidence of bronchopneumonia during the first year of life, mortality rates for bronchopneumonia have been classified in two age groups (less than 1 and more than 1 year of age). States with high influenza mortality are all Southern states, while low mortality rates are, in general, shown by the states along the North Atlantic seaboard. The states having high mortality rates for bronchopneumonia and lobar pneumonia are located in the northeastern section of the country. There is no evidence of a geographic distribution in the group of states with low pneumonia death rates. In asthma mortality New York, Massachusetts and three other New England states are among the five states showing low rates. There does not appear to be a definite regional concentration of states with high mortality rates from asthma; two Southwestern states, Arizona and Colo-

rado, lead the list. The asthma death rate in Arizona is conspicuously high as compared to the rates of other states. Bronchopneumonia and lobar pneumonia mortality are associated with the more densely populated urban areas. The coefficients in the climatic panel indicate that all the respiratory disease mortality rates are associated with normal temperature. There is no evidence of a significant association between normal temperature and pneumonia mortality in the zero order correlation analysis, but both bronchopneumonia (more than 1 year) and lobar pneumonia are highly and negatively correlated with normal temperature. Influenza mortality, on the other hand, is definitely associated with normal temperature. Asthma is not directly correlated with normal temperature but is definitely correlated with solar radiation. In the socio-economic panel all the pneumonias are decidedly associated with some index of urbanization or population density. Influenza, on the other hand, is inversely correlated with the degree of urbanization. These results clearly show that there is a definite difference in the spatial distribution of the diagnoses of pneumonia and influenza, respectively. In every case except that of asthma the socio-economic group of factors is of greater statistical importance than the climatic group of variables.

Trichinosis in the Chicago Area.—In an attempt to determine the incidence of trichinosis in the Chicago area Hood and Olson carried out the digestion and pressed muscle methods on from 10 to 20 Gm. of diaphragms of 428 unselected necropsies performed at several Chicago hospitals. With these methods 16 per cent of the diaphragms were found infected with the larvae of Trichinella spiralis. Of the 428 samples investigated, forty-eight were from infants less than 1 year of age. Four (8.3 per cent) of these contained trichina larvae.

American Journal of Medical Jurisprudence, Boston

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Business Problems of the Medical Profession. J. A. Slaughter, San Francisco, and L. S. Trigg, Los Angeles.—p. 104.
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The Healing of Cavities. W. Pagel, Cambridge, England, and F. A. H. Simmonds, South Mimms, England.—p. 281.
*Antianemic Effect of Yeast in Pernicious Anemia. M. M. Wintrobe, Baltimore.—p. 286.
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Postmortem Weight of the "Normal" Human Spleen at Different Ages. E. B. Krumbhaar and S. W. Lippincott, Philadelphia.—p. 344.
Significance of Peripheral Circulatory Disturbances for Development of Osteo-Arthritis. D. H. Kling, Los Angeles.—p. 358.
*Specific Treatment of Pneumococcus Type II Pneumonia: Including Use of Horse and Rabbit Antipneumococcus Serums and Sulfanilamide. J. W. Brown, San Francisco, and M. Finland, Boston.—p. 369.
*Specific Treatment of Pneumococcus Type V and Type VII Pneumonias: Id. M. Finland, Boston, and J. W. Brown, San Francisco.—p. 381.
Personality Type of Patients with Toxemias of Late Pregnancy. L. G. McNeile, Los Argeles, and E. W. Page, Berkeley, Calif.—p. 393.

Antianemic Effect of Yeast in Pernicious Anemia.—Wintrobe gave dehydrated brewers' and bakers' yeast, as well as extracts of these substances, to fifteen patients with pernicious anemia in relapse and to eight with little anemia. Maximal hemopoietic responses occurred in five patients given dehydrated brewers' yeast in amounts of 1 or 2 Gm. daily per kilogram of body weight. Submaximal effects occurred in two other patients who subsequently were found to respond inadequately to liver. Little response was observed in three patients who likewise failed to respond to oral liver therapy. In only one patient was liver extract, given by mouth, more effective than brewers' yeast and in one resistant patient desiccated hog stomach was somewhat more effective than brewers' yeast. Nine patients receiving from 0.3 to 0.8 Gm. of yeast daily per kilogram of weight as maintenance therapy have remained well to date, from four to ten months. A bakers' type of yeast failed to cause well marked hemopoietic effects in six patients, four of whom subsequently did not respond even to oral liver therapy but two of whom responded to brewers' yeast. Reticulocytosis occurred in two patients given yeast extracts parenterally but a significant increase in the number of red corpuscles did not follow. A significant hemopoietic effect has not been produced by the oral administration of extracts of yeast which have been prepared so far. The author presented his observations because of the bearing they may have on an understanding of the disease pernicious anemia rather than with the purpose of proposing a new form of treatment.

Vitamin C Deficiency.—McGovern and her associates cite the cases of a mother and five children in good financial circumstances who presented varying degrees of hypovitaminosis C, resulting from a familial distaste for and consequent restriction of foods rich in this vitamin, citrus fruits. Since the mother required daily about 500 mg. of crystalline ascorbic acid intravenously to bring about chemical saturation and the disappearance of scorbutic symptoms and later relapsed while receiving 1,000 mg. orally each day, the authors raise the question whether this is due to a metabolic peculiarity of this individual which changes the vitamin into a nonantiscorbutic form or whether the potency of the synthetic substance may be altered by mechanical handling, storage conditions or as yet unrecognized factors in the methods of administration, or, thirdly, whether a deficiency of some factor other than synthetic vitamin C produced the scorbutic-like syndrome in this patient. After this patient had been under treatment for five months they made studies of her five adult children, all of whom complained of lack of strength and frequent respiratory infection. Since diagnosis of their mother's vitamin C deficiency, fruit juices had been taken about twice a week. Vitamin C saturation tests showed that all were subnormal or low-normal, and with the capillary fragility test two exhibited marked fragility, two marginal and one normal. A course of treatment with large doses of crystalline ascorbic acid was followed by normal responses in every case and disappearance of symptoms.

Specific Treatment of Types II, V and VII Pneumonia.—Brown and Finland used specific serums, sulfanilamide or both in the treatment of 148 cases of type II, eighty-one of type V and seventy-nine of type VII pneumonia. The mortality among the 148 patients treated with serum was 19 per cent as compared to 36 per cent among sixty-four contemporary patients not treated with serum. Only 14 per cent of 121 patients treated with serum before the end of the fourth day died. The greatest reduction in mortality appeared to be in patients between 20 and 60 years of age. The deaths among the serum treated patients occurred chiefly in patients with other serious complicating conditions and in those who were in poor general condition when the treatment was begun. Untoward reactions to serum injections were more frequent in type II cases than in the type I cases. Concentrated rabbit serums were used in the treatment of nine patients, including four with bacteremia. None of these patients died. The experience with sulfanilamide in eight suggests that this or similar drugs may have some usefulness as an adjunct to specific serum in the treatment of certain severe type II cases. Among the eighty-one patients with type V pneumonia treated with serum the death rate was 10 per cent as compared with 41 per cent among 234 patients not treated with serum, which included contemporaneous cases and those occurring in the six years before the introduction of specific serum. Following serum treatment, clinical improvement was rapid and complete. Deaths occurred only when specific treatment was undertaken in the face of severe complicating conditions or when it was begun after the

fifth day in bacteremic cases. The death rate among the seventy-nine patients treated with serum who had type VII pneumonia was 12 per cent as compared with 29 per cent among 160 earlier and contemporary patients not given serum. Type VII cases were more frequently atypical and, because this type is relatively frequent in sputum or in pharyngeal cultures of patients without pneumonia, caution is required in the choice of proper cases for specific treatment. Concentrated antipneumococcus rabbit serums were used for eleven patients. The data indicate that the rabbit serums are probably as effective as horse serums. More data are necessary to determine any superiority of the one over the other. Too few cases have been treated with sulfanilamide to evaluate the place of this drug in the treatment of pneumococcic pneumonias of types V and VII. Sulfanilamide or similar drugs may prove to be valuable adjuncts to serum treatment, particularly in bacteremic cases in which treatment is begun late in the disease. They may also be useful in cases when only serums of low potency are available. Further studies of their use in adequately controlled cases are desirable.

American J. Obstetrics and Gynecology, St. Louis

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The Hippuric Acid Excretion Test in Pregnancy. A. Hirsheimer, Dayton, Ohio, with technical assistance of Marian Brindle Miller.—p. 363.
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Influence of Hormone Activity of Ovaries on Character of Tubal Contractions as Determined by Uterine Insufflation: Clinical Study. I. C. Rubin, New York.—p. 394.
Role of Uterus in Production of Manometric Fluctuations During Uterotubal Insufflation (Rubin Test). S. Wimpfheimer and M. Feresten, New York.—p. 405.
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Fifteen Year Study of Cesarean Section in the Woman's Hospital in the State of New York. R. L. Barrett, New York.—p. 434.
*Retained Cervical Stump, with Special Reference to Nonmalignant Changes. E. Henriksen, Los Angeles.—p. 452.
Effect of Progestin on Anterior Pituitary. A. W. Makepeace, Philadelphia.—p. 457.
*Food Habits of Mothers of Congenitally Malformed Children: Report of 545 Families. D. P. Murphy and Anna DePlanter Bowes, Philadelphia.—p. 460.
Puerperal Sterilization. F. L. Adair and I. Brown, Chicago.—p. 472.
Granuloma Venereum of Cervix Uteri: Statistical Study. E. R. Pund, Georgia Brawner Huie and V. A. Gotcher, Augusta, Ga.—p. 477.
New, Nonirritating Opaque Medium for Uterosalpingography: II. Elimination of Acacia. R. H. McClellan, P. Titus, R. E. Tafel and E. C. Lory, Pittsburgh.—p. 495.

Retained Cervical Stump.—During a recent clinical and pathologic survey of carcinoma of the cervix occurring in the Gynecological Service of the Johns Hopkins Hospital between 1893 and 1935, Henriksen observed that the incidence of true stump carcinoma following subtotal hysterectomy was really low. In this period of forty-two years, 4,300 uteri were removed subtotally because of myomas and 2,250 for other causes of a benign nature. Only 157 patients returned because of complaints relative to the stump. Of these 157 patients, twenty-six were found to have a primary carcinoma of the stump. This figure would be nearly tripled if those patients were included in whom cancer was found either at the time of hysterectomy or within one year following the surgical intervention. There has been no definite attempt to follow these patients and the data are therefore relative rather than factual. The fact that only 2.4 per cent (157 patients) of the 6,550 patients returned to the hospital with complications referable to the stump, and that of these only twenty-six had cancer, indicates that the incidence of stump cancer is so low as to be of relatively little import. There is no evidence that subtotal hysterectomy predisposes to cancer of the stump or that the residual stump is more susceptible to malignant changes than the cervix of a complete uterus. The author does not feel that the 0.45 per cent incidence is sufficient reason to advise the total operation with its morbidity-mortality rate of from 2 to 5 per cent. With proper preoperative and postoperative treatment of the cervix, total hysterectomy as a prophylactic against cancer of the stump is probably rarely indicated.

Food Habits of Mothers of Congenitally Malformed Children.—Murphy and Bowes obtained dietary facts from 545 mothers who had given birth to malformed children. Questions were planned which might be the means of assembling information about the regular food habits of this group of mothers and the changes they made in their diet during pregnancy. 1. About 35 per cent of these women took no milk during pregnancy. 2. About 20 per cent took 1 quart or more of milk daily. 3. About 20 per cent had two servings daily of leafy vegetables, and only 10 per cent reported having from two to four servings daily of other vegetables. 4. Citrus fruit was taken once daily by 18 per cent, and 13 per cent had about two servings of other fruit daily. 5. About 25 per cent used too much bread and only 17 per cent used whole grain bread regularly or often. 6. Excessive use of coffee, tea or alcoholic beverages was not indicated by the reports given. 7. Approximately 40 per cent of these women had an inadequate diet when pregnant with their malformed offspring. 8. Among the mothers using an inadequate diet, anemia was found twice as frequently as among those using an adequate diet. 9. Anemia in the women who gave birth to congenitally malformed children was found four times as often as in a control series. 10. The present observations offer no proof that an inadequate diet or anemia is a predisposing cause for the occurrence of congenital malformations. However, both characteristics were observed with unusual frequency.

American Journal of Ophthalmology, St. Louis

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Melanosarcoma of Iris. W. B. Doherty, New York.—p. 239.
Mecholyl and Prostigmine in Treatment of Glaucoma. S. T. Clarke, Boston.—p. 249.
The Retina in Septic and Chronic Endophthalmitis of Ectogenous Origin. H. D. Lamb, St. Louis.—p. 258.
*Occupation in Relation to Cancer of the Eye and Adnexa, with Practical Points for the Ophthalmologist. Laura A. Lane, Ann Arbor, Mich.—p. 267.
Contrast Sensitivity as Criterion of Visual Efficiency at Low Brightness-Levels. M. Luckiesh and F. K. Moss, Cleveland.—p. 274.
Treatment of Gonorrheal Ophthalmia. A. G. Bower and W. Frank, Los Angeles.—p. 277.
Lectures on Motor Anomalies: VII. Paralyses: General Symptomatology. A. Bielschowsky, Hanover, N. H.—p. 279.
Results of Vitamin D Complex Treatment of Keratoconus: Preliminary Study. A. A. Knapp, New York.—p. 289.
Problems in Diagnosis of Abscess and Tumor of Orbit. W. L. Benedict, Rochester, Minn.—p. 292.

Occupation and Optic Cancer.—Lane presents a report on the relation of occupation to 1,000 cases of cancer of the eye. The cases were equally divided between carcinomas and malignant melanomas. The material was obtained from the records of twenty-two eye clinics in the United States and Canada, four institutions devoted exclusively to the study and treatment of cancer, the private records of many eminent ophthalmologists and from medical services of large industrial plants producing chemicals, oils, carbon products and gas. Every case studied has been verified by biopsy or microscopic section of the tumor. More than 154 different occupations were represented. The following general classification was made: exposure to oils and lubricants, exposure to sunlight, to sunlight and the elements, to sunlight and tar, to sunlight and chemicals or irritants, to chemicals, to coal, pitch and tar, to radioactive substances, to metals and miscellaneous occupations. Not all the occupations showed an increased distribution above that found in the average general cancer rate per thousand cases. Occupations in which workers are exposed to oils and having relation to the automotive field show some increased distribution. Printers, plumbers and steam fitters, who use oils more or less in their work, do not show any such increase. Workers exposed to sunlight, the elements, pitch and tar and chemicals show a large distribution. Especially to be noted is the large number of farmers and of laborers who form 85 per cent of the 155 cases in this group. In the miscellaneous group of patients whose work is more or less sedentary and presents no great occupational hazards there is a rather startling increase, particularly in the domestic and personal service occupations, more than one third of the entire 1,000 patients being housewives. Individually the clerical occupations show no increase but taken as a group they do. Likewise the manufacturing and mechanical industries as a group show considerable increase. A small select group of skilled artisans (exposure to metals), mostly of the male sex, show no individual increase in cancer of the eye, but the group as a whole shows a slight increase. The average age of the 500 patients having ocular carcinoma was 57.15 years. The

average age of those with malignant melanomas (sarcoma) was 48.5 years. There were 201 women among the 500 persons with carcinoma and 214 among the 500 with sarcoma. There is an excess of 170 men; however, five of the seven occupational groups had occupations in which, as a rule, only men are engaged. Much of the material was drawn from large industrial centers, which may possibly account for the predominance in men. The ophthalmologists when taking histories of cancer of the eye should inquire how long a patient has followed his occupation; likewise whether any other occupation was followed previous to the present occupation and if so how long that occupation was pursued. These questions often have an important medicolegal bearing. The exact nature of the duties of the occupation should be noted. Details are of importance in solving the cancer problem. Eye clinics, unfortunately almost without exception, have not been in the habit of following up their tumor cases.

American Journal of Surgery, New York

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New Method of Joint Measurement and Review of Literature. F. J. Wiechec and F. H. Krusen, Rochester, Minn.—p. 659.
Rhythmic Surgery: Arrangement of Operating Room. W. H. Lawrence and C. H. Berry, Summit, N. J.—p. 669.
Malignant Tumors of the Testicle: Review of Eighty-Three Cases. C. C. Higgins and W. I. Buchert, Cleveland.—p. 675.
*Lymphogranuloma Venereum in the Female: Clinical Study of Ninety-Six Consecutive Cases. R. Torpin, R. B. Greenblatt, E. R. Pund and E. S. Sanderson, Augusta, Ga.—p. 688.
Levator Hernia, Perineal and Pudendal. F. C. Yeomans, New York.—p. 695.
Use of Prolonged Anesthesia in 100 Rectal Cases. L. G. Bodkin, Brooklyn.—p. 698.
*Studies on Absorbability of Catgut. R. R. Bates, Joliet, Ill.—p. 702.
Value of Pitressin in Abdominal Surgery, with Special Reference to Dosage and Technic. P. C. Potter and R. S. Mueller, New York.—p. 710.
Acute and Chronic Cicatrizing Enteritis (Regional Ileitis). A. M. Dickinson, A. Vander Veer 2d and J. J. Clemmer, Albany, N. Y.—p. 714.
Infiltrative Anesthesia in Surgery of the Gallbladder. F. B. McCarty, Chicago.—p. 728.
*Iodine Metabolism and the Hypothyroid State. J. W. Hinton, New York.—p. 734.
Low Back Pain and Spina Bifida Occulta. R. J. Dittrich, Fort Scott, Kan.—p. 739.

Venereal Lymphogranuloma in Women.—Torpin and his associates made a study of ninety-six consecutive cases of venereal lymphogranuloma in women (only four were white women) and found the cases to fall into four overlapping groups: genital, inguinal, anorectal and urethral syndromes. Various therapeutic measures are recommended. A specific has as yet not been found. Sulfanilamide has proved a valuable adjunct to therapy. It is of value in checking the rectal leukorrhea that is so often attendant on rectal stricture, it aids in the healing of ulcerations and it helps drainage from ischiorectal abscesses, sinus tracts and draining buboes to cease. However, thus far the authors have observed but little effect on the secondary lesions themselves, such as rectal stricture, elephantiasic vulvae or papillary excrescences and growths about the genitalia.

Absorbability of Catgut.—Bates subjected healthy adult dogs to gastro-enterostomy under standard surgical conditions. The gastro-enterostomies and the abdominal wounds were each closed with the suture to be studied, and at intervals of twenty-four hours, four days, one week, two weeks and four weeks the wounds were examined grossly for the state of healing, functioning of the suture, fragments of catgut and peritoneal adhesions. Both the gastro-enterostomy and the abdominal wound in each case were examined microscopically after being blocked in celloidin. Not only were typical wounds provided by making gastro-enterostomies, but also the comparative rates of wound healing in the intestine and in the abdominal wall could be studied. None of the dogs had grossly infected abdominal wounds. 1. Employing chromic catgut, studies with 000 sutures showed filmy omental adhesion at twenty-four hours. Grossly, a beginning self support in the wounds was observed in four days. Fibroblasts had appeared by this time. The catgut demonstrated enough tensile strength to continue functioning for fourteen days in both gastro-enterostomies and abdominal wounds. At the end of twenty-eight days about half of the catgut had disappeared. 2. The size 3 chromic suture was inconstantly associated with adhesions. With it both gastro-enterostomy and abdominal wounds healed at about the same rate. At four days there was no gross healing. Small green masses of necrotic tissue had collected about the knots of catgut. Fibroblasts appeared by this time. At eight days the poorly healed wounds contained frayed suture, having little if any function, and after twenty-eight days half of the catgut was phagocytized. 3. The size 1 chromic suture was associated with inconstant peritoneal adhesions. At four days, fibroblasts began to appear in spots. The suture exhibited appreciable tensile strength up to the fourteenth day, after which swelling and fraying reduced it to uselessness; suture particles were present at the twenty-eighth day. Abdominal wounds and gastro-enterostomies healed at about the same rate. 4. Plain catgut, size 000, produced prompt, severe and persistent gross reaction in both kinds of wounds. At four days the catgut had lost all holding power and repeated eviscerations occurred. By eight days the last microscopic traces of catgut were fast disappearing and only then did fibroblasts begin to appear. The gastro-enterostomies all held, however, through their critical period. 5. Size 3 plain catgut in wounds caused much reaction. At four days there was no gross healing in either type of wound. The suture was weak and swollen, and half of it was gone. By the eighth day fibroblasts appeared and by the fourteenth day the catgut had disappeared. Healing occurred at parallel rates in the two kinds of wounds, and peritoneal adhesions were found in some cases and not in others. 6. The more commonly used size 1 plain catgut in both types of wounds was not greatly different from the larger catgut, except that grossly there was somewhat less reaction. The suture functioned no longer than four days, and frayed strands persisted for two weeks. From the first, a wide zone of round cells hastened phagocytosis. The fibroblasts appeared after eight days. Regardless of the size of the suture employed, plain catgut resulted in slower healing and more irritation than chromic catgut. At any day examined, the histologic sections showed a wider zone of round cell infiltration around the plain catgut than around the chromic catgut. True, the larger the plain suture the greater the reaction around it; but there was as much infiltration around the smallest plain suture as around the largest chromic suture. The smallest amount of tissue reaction, the earliest appearance of fibroblasts and the most rapidly healing wounds occurred when the 000 chromic suture was used. The most violent reaction, the most retarded appearance of fibroblasts and wounds which exhibited edema the longest and healed the worst occurred when size 3 plain catgut was employed.

Iodine Metabolism and Hypothyroidism.—Hinton states that thyroid dysfunction may result either from a lack or from an excess of the substances (tyrosine and iodine) from which thyroxine, the active principle of the gland, is formed. An excess of tyrosine and a diminution of iodine might result in a form of thyroxine containing less iodine than normal, and a type of hyperthyroidism would be produced. If, on the other hand, not enough tyrosine was available to mobilize the iodine, a colloid type of goiter might result or there could be hypothyroidism without thyroid enlargement. Such disturbances could be brought about by intestinal disorders, dietary irregularities, scarcity of iodine in the diet or dysfunction of the tissues normally responsible for oxidizing excess of tyrosine. Either an excess or an abnormal side product of the amino acids would be found in the latter case. The early stages of hypothyroidism produce most bizarre symptoms and for that reason the condition is frequently overlooked. The clinical problem in hypothyroidism is provided by the vague symptoms so commonly attributed to some other organ or organs. One should suspect hypothyroidism when patients present dry skin with falling hair or baldness, apathy, general weakness and nervousness when fatigued, i. e., the fatigue coming on late in the afternoon or early evening. Somnolence and constipation are common complaints. It is at times necessary to treat a patient as hypothyroid, although the metabolism may be reduced only to the lower limits of normal, if one is clinically certain of the diagnosis. The lassitude is more marked on arising in the morning, improves during the middle of the day and returns in the late afternoon or evening. Abdominal pain (more than likely typical of peptic ulcer) is frequently associated with the period of lassitude, as are mental depression and irritability. The periodicity of the pain is lacking. Vomiting is occasionally encountered,

usually when the patient is extremely tired. The hypothyroid patient rarely shows any improvement on an ulcer diet, in spite of ulcer symptoms. Obviously, not all patients suffering from the symptoms of ulcer have definite hypothyroidism. Yet some do, and if one is careful to evaluate the symptoms of hypothyroidism these cases can be diagnosed. A basal metabolism will usually verify the diagnosis. The treatment should consist of thyroxine (1 mg.) intravenously once a week, with 0.065 Gm. of thyroid extract orally twice or three times a day. It is important to continue the thyroxine administration intravenously at weekly intervals over a relatively long period: from eight to ten weeks. This may be governed by the clinical course of the patient. From the clinical results obtained from thyroxine administration it would seem that the therapeutic effects lie in the tyrosine radical of the molecule and not in the iodine content of thyroxine. After the patient is free from symptoms and his metabolic determination is normal, he must be made to realize that this state will not continue unless thyroid medication is taken at intervals over a period of months and perhaps years. Improvement is due to a general stimulation of the metabolic processes. Thyroxine tablets, 1/80 or 1/60 grain (0.0008 or 0.001 Gm.), twice a day may prove beneficial in patients who will not tolerate thyroid by mouth.

American Review of Tuberculosis, New York

39: 275-418 (March) 1939

Blastomycosis (American Blastomycosis, Gilchrist's Disease): I. Review of Literature. D. S. Martin and D. T. Smith, Durham, N. C.—p. 275.
Climatic and Socio-Economic Factors in Mortality from Pulmonary Tuberculosis. I. M. Moriyama and L. P. Herrington, New Haven, Conn.—p. 305.
*Treatment of Tuberculosis by Tuberculin Desensitization. H. S. Willis and T. R. Jocz, Northville, Mich.—p. 318.
Bronchial Catheterization. I. E. Rudman, Philadelphia.—p. 329.
Paravertebral Aspiration of Tuberculous Psoas Abscess. F. C. Warring Jr. and E. M. Kent, Shelton, Conn.—p. 338.
Factors of Healing, Latency and Progression in Pulmonary Tuberculosis. H. C. Sweany, Chicago.—p. 348.
*Resistance to Tuberculosis: I. Factors Associated with the Bacteria. K. C. Smithburn, New York.—p. 371.
Id.: II. Variations Dependent on the Age of Host and on Resistance Induced by Vaccination. K. C. Smithburn, New York.—p. 383.
Demonstration of Tubercle Bacilli by Culture and by Guinea Pig Inoculation: Comparative Study. A. Guggenheim and M. Finkelstein, Denver.—p. 397.
Tuberculosis Survey in Florida. A. J. Logie, Jacksonville, Fla.—p. 408.

Tuberculin Desensitization for Tuberculosis.—Willis and Jocz used tuberculin supplemented by surgical collapse in the treatment of fifteen patients who had intractable tuberculosis and who obtained no improvement from prolonged bed rest in a sanatorium. These patients were of low skin sensitivity. They were given tuberculin daily in rather rapidly increasing doses over a period of several months. The smallest dose given was 0.1 cc. of 1:1,000,000 dilution and the largest was 1 cc. of undiluted tuberculin. As a rule the initial dose was 0.1 cc. of 1:10,000 dilution. Doses were increased by 0.1 cc. daily. Old tuberculin and trichloroacetic precipitate tuberculin (TPT) were used interchangeably and each was used in each case. Fourteen of the patients so treated had pulmonary tuberculosis and one had tuberculous epididymitis. The clinical course was characterized by one or more exacerbations, by persistent lack of improvement or by unremitting, slow progression. The patients had had an average of three and one-half years of sanatorium care (from one and one-half to seven years) before tuberculin therapy was instituted, which consisted of daily subcutaneous doses of tuberculin given on a scale of increasing amounts and maintained at the patient's limit of tolerance. The doses did not produce demonstrable focal or general reactions, although local reactions accompanied the full doses. Several of the patients might have weathered the disease without tuberculin. However, despite good sanatorium care and good collapse therapy they were prone to relapse or to be stubbornly unresponsive to treatment. At the beginning of the period of treatment three of the fifteen were temporarily improved over their admission status, in eight the condition was stationary and four were worse. At the end of treatment eight were improved, five showed no change and two were worse. In the "improved" group only those were included in whom x-ray evidence of receding disease could support clinical evidence and in whom tolerance to moderate exercise was clear. These patients remained in the sanatorium an average of seventeen and one-half months after tuberculin treatment. At discharge the condition of one was classified as arrested, of five as apparently arrested, of two as quiescent and of three as improved; two patients died and two remain in the hospital and will die. At present, from three to four years after cessation of treatment, seven have the disease in an arrested form and two apparently arrested; two are unimproved (still in the hospital) and four are dead. The authors emphasize the fact that the study was undertaken solely as an experiment; that they do not recommend the general use of tuberculin therapy; that they believe daily injections of rather rapidly increasing concentration of tuberculin in the chronic, "sluggish" case of pulmonary tuberculosis with low tuberculin sensitivity will lead frequently to distinct improvement, and that, if tuberculin is employed at all, the patient should continue under adequate sanatorium and collapse care. The therapeutic use of tuberculin should never be instituted in place of a sanatorium regimen and collapse therapy but always as supplemental to such a program. Unskilful use of this drug may lead to disaster.

Resistance to Tuberculosis.—In his experimental studies Smithburn found that differences in the survival time of animals occurred according to whether tubercle bacilli were inoculated subcutaneously, intravenously or intracerebrally. With the intracerebral route of inoculation the survival time was shortest and individual variation in survival time was least. Comparable groups of animals inoculated intracerebrally with the same dose of the same suspension of organisms did not exhibit significant differences in mean survival time. Comparable groups of animals inoculated with different doses of the same suspension of organisms did exhibit significant differences in survival time. Comparable groups of animals inoculated with the same doses of organisms differing in virulence also showed significant differences in survival time. From his results the author concludes that resistance, as expressed by survival time following inoculation, may be profoundly affected by the virulence of the organisms, the number of them gaining access to the body and the route by which they enter the body.

Archives of Dermatology and Syphilology, Chicago

39: 387-616 (March) 1939

*Precancerous Dermatosis and Epithelioma in Situ. H. Montgomery, Rochester, Minn.—p. 387.
Mal de Meleda: Review of Literature and Report of Four Cases. H. D. Niles and Margaret M. Klumpp, New York.—p. 409.
Blennorrhagic Balanitiform Keratoderma: Report of Three Additional Cases, Including One of Buccal Involvement. W. L. Sherman, F. Blumenthal and J. Heidenreich, Eloise, Mich.—p. 422.
Onychodystrophy Caused by Cervical Rib. L. C. Rubin and A. C. Cipollaro, New York.—p. 430.
Kerion Celsi of the Scalp in an Adult. J. A. Benson, Ann Arbor, Mich.—p. 434.
Criteria for Histologic Diagnosis of Keratosis Follicularis (Darier): Report of Case with Vesiculation. I. R. Pels and M. H. Goodman, Baltimore.—p. 438.
Tuberculoid Leprosy. B. Sáenz and J. C. Palomino, Habana, Cuba.—p. 456.
LXXXV.—Treatment of Lupus Vulgaris by Injections of Starch U. S. P. (Corn Starch): Report of Case. R. L. Kile, St. Louis.—p. 471.
*"Winter Eczema of the Arms." H. D. Niles, New York.—p. 474.
Extramammary Paget's Disease and Intra-Epidermal Carcinoma. H. Pinkus, Detroit, and S. E. Gould, Eloise, Mich.—p. 479.
Rhinoscleroma: Report of Two Cases. C. A. Simpson, Washington, D. C., and F. A. Ellis, Baltimore.—p. 503.
Karaya Gum as Cause of Urticaria. R. Bowen, Oklahoma City.—p. 506.
*Inadequacy of the Laughlen and the Ide Test in Diagnosis of Syphilis. J. M. Flood and Verna Mayer, Philadelphia.—p. 510.
Pemphigus Controlled by Vitamin D. H. King and C. M. Hamilton, Nashville, Tenn.—p. 515.
Sensitiveness of Skin to Roentgen Rays Following Ingestion of Arsenic. C. W. Laymon and H. Cumming, Minneapolis.—p. 518.
*Sulfanilamide Treatment of Syphilitic Interstitial Keratitis: Preliminary Report. I. L. Sandler, Washington, D. C.—p. 528.

Precancerous Dermatosis and Epithelioma.—As a working basis Montgomery limits the term "precancerous dermatosis" to true but infrequent Bowen's precancerous dermatosis, senile keratosis, keratosis resulting from arsenic, tar or radiation and various forms of leukoplakia of the mucous membrane of the mouth and genitalia, including the so-called erythroplasia of Queyrat. He shows that in 20 per cent or more of all these conditions epithelioma develops, usually of squamous cell type and, beginning in situ, is associated with various phenomena of dyskeratosis and keratinization of individual cells simulating

most closely the histologic picture of Bowen's disease. The conditions are all interrelated by their common histologic picture and hence a possible common carcinogenic factor. Precancerous dermatoses are not to be confused with the relatively rare epithelioma in lesions of lupus vulgaris, psoriasis, lichen planus and pseudo-epitheliomatous hyperplasia. In many cases of precancerous dermatosis, histologic transitions between a benign and a malignant process may be seen in the same section. The peculiar or distinctive and predominant histologic feature of epitheliomas in situ with the phenomena of Bowen's disease, together with their relatively long duration as such, without clinical or histologic evidence of malignant invasion, the author believes, justifies the grouping of true Bowen's disease, senile keratosis, keratosis resulting from arsenic, tar and irradiation and in most cases leukoplakia of the mucous membranes under the title "precancerous dermatosis."

"Winter Eczema of the Arms."—During the last three winters Niles encountered several patients with a peculiar eruption which, he believes, has not been previously described. The lesions were limited to the extensor surfaces of the arms and occasionally extended to the forearms and shoulders. They consisted of roughly round and circumscribed dry red scaly patches, varying in size from that of a pea to that of a dime. Itching was marked, moderate or absent and when present followed rather than preceded the appearance of the patches. In all cases the eruption appeared at the onset of cold weather. In some cases there had been a similar eruption during previous winters which did not respond to various types of therapy during the winter but disappeared spontaneously before summer and recurred the following fall. The patients bathed daily and the majority twice a day. In no instance was there a personal or family history of allergy. All the patients were in the third or fourth decade of life. So far the daily use of an ointment originally prescribed by Deeks for mycotic infections, combined with less frequent bathing, use of a superfatted soap and careful drying of the affected areas has resulted in a cure in one or two weeks. The other measures when combined with the use of some other ointment proved ineffective. The lesions were purposely reproduced in a few patients by stopping the use of the ointment and superfatted soap and allowing more frequent bathing without careful drying. This second eruption disappeared rapidly with the same treatment that was used for the original condition.

Laughlen and Ide Tests for Syphilis.—Flood and Mayer checked the Laughlen and the Ide test against the Kline slide precipitation test, the Kahn standard test and a two tube Kolmer complement fixation test. There was absolute and relative agreement of the last three tests, 100 per cent in the series studied. In the nonsyphilitic group the Laughlen and control tests agreed for 307 of 314 specimens, or 97.78 per cent. The Ide test was performed on 257 specimens, with an agreement on 246 specimens, or 95.72 per cent. This indicates that the Laughlen and Ide tests are less specific than the standard test used. In the cases of treated syphilis 507 specimens were used for the Laughlen and 404 specimens for the Ide test. There was agreement on 387 specimens with the Laughlen test and on only 232 specimens with the Ide test. The Kahn, Kline and Kolmer tests remained positive in 108 cases, while the Laughlen test was negative and in 163 cases while the Ide was negative. The Laughlen and the Ide test were positive while the control tests were negative in twelve and nine cases respectively, or 2.37 and 2.23 per cent. Thus it is evident that the Laughlen and Ide tests become negative during treatment sooner than the standard tests. The Laughlen test gave an agreement in fifty-one of fifty-seven cases of untreated early syphilis and failed to detect the disease in six cases in which the control tests gave positive results. The Ide test was less satisfactory, detecting the disease in only eighteen of forty-three cases. Neither the Laughlen nor the Ide test was positive in the cases in which the control tests were negative. Of 147 specimens from patients with untreated late syphilis the Laughlen test agreed on ninety-five. There were forty-eight cases in which the Laughlen reaction was negative and the Kahn, Kline and Kolmer tests positive. In only four cases was the Laughlen reaction positive and the control negative. The Ide test was inferior to the control tests in that agreement was present in only forty of 118 cases. There were seventy-five cases in which the Ide test was negative and the control test positive. The opposite was true in only three cases. The Ide test is satisfactory for the examination of spinal fluid but the Laughlen test grossly fails when the spinal fluid is not concentrated.

Sulfanilamide in Interstitial Keratitis.—Sandler reports a case of relapsing resistant syphilitic interstitial keratitis which responded dramatically to sulfanilamide. The patient was given an intramuscular injection of 5 cc. of prontosil and 10 grains (0.65 Gm.) of sulfanilamide three times daily. In forty-eight hours there was a decided improvement of the conjunctival congestion, photophobia and lacrimation, and in ninety-six hours these symptoms disappeared completely. Up to the time of the report the keratitis has not relapsed.

Archives of Internal Medicine, Chicago

63: 433-608 (March) 1939

Hemochromatosis: Report of Case with Necropsy and Analysis of the Liver. G. Flaum and G. H. Stueck Jr., New York.—p. 433.
Rate of Removal of Thorium Dioxide from Blood Stream. H. L. Harrington and C. Huggins, Chicago.—p. 445.
Intubation of the Human Small Intestine: XII. Treatment of Intestinal Obstruction and Procedure for Identifying the Lesion. W. O. Abbott, Philadelphia.—p. 453.
*Influence of Exercise on Cardiac Output in Congestive Heart Failure. J. McGuire, Rose Shore, V. Hauenstein and F. Goldman, Cincinnati.—p. 469.
Dermatomyositis with Scleroderma, Calcinosis and Renal Endarteritis Associated with Focal Cortical Necrosis: Report of Case in Which the Condition Simulated Addison's Disease, with Comment on Metabolic and Pathologic Studies. J. H. Talbott, E. A. Gall, W. V. Consolazio and F. S. Coombs, Boston.—p. 476.
*Relation of Hyperthyroidism to Hypertension. J. D. Bisgard, Omaha.—p. 497.
*Chronic Constrictive Pericarditis: Dynamics of Circulation and Results of Surgical Treatment. H. J. Stewart and G. J. Heuer, New York.—p. 504.
Ascorbic Acid in Blood and Urine After Oral Administration of Test Dose of Vitamin C: Saturation Test. Grace A. Goldsmith, New Orleans, and G. F. Ellinger, Mount Vernon, Wash.—p. 531.
Intraperitoneal Pressure During Treatment with Artificial Pneumoperitoneum: Clinical Study. A. L. Banyai, Wauwatosa, Wis.—p. 547.
Variable Symptom Complex of Undetermined Etiology with Fatal Termination, Including Conditions Described as Visceral Erythema Group (Osler), Disseminated Lupus Erythematosus, Atypical Verrucous Endocarditis (Libman-Sacks), Fever of Unknown Origin (Christian) and Diffuse Peripheral Vascular Disease (Baehr and Others). E. C. Reifenstein, E. C. Reifenstein Jr. and G. H. Reifenstein, Syracuse, N. Y.—p. 553.
Meningococcic Septicemia: Report of Five New Cases. R. W. Heinle, Cleveland.—p. 575.
Is Iron Excreted by the Gastrointestinal Tract of the Dog? Histologic Study. S. Maddock and C. W. Heath, Boston.—p. 584.
Bright's Disease: Review of Recent Literature. W. S. McCann, Rochester, N. Y.—p. 590.

Influence of Exercise on Cardiac Output.—McGuire and his co-workers determined the effects of exercise on cardiac output, stroke volume, oxygen consumption and arteriovenous oxygen difference of five normal subjects, four patients with compensated cardiac disease and five patients with cardiac decompensation. For the controls the average increase in cardiac output following exercise was 2.07 liters per minute, for patients with compensated heart disease it was 1.21 liters per minute and for patients with decompensation it was 0.75 liter per minute. The work performed was essentially the same for all groups. The average stroke volume of the normal subjects increased 19 cc. per beat after work, for the patients with compensated cardiac disease it was 14 cc. and for the patients with cardiac decompensation the average increase was only 4 cc. No constant change in the arteriovenous oxygen difference following exercise occurred in any of the groups. For the normal subjects the average increase in oxygen consumption with work was 148 cc. per minute; for those with compensated heart disease it was 111 cc. and for patients with cardiac decompensation it was only 92 cc. The pulse rate was accelerated moderately after exercise in the normal subjects and in the patients with decompensation. The data suggest to the authors that in patients with severe cardiac decompensation under the conditions of the experiments the cardiac output is not increased with effort to the same degree as it is in normal persons and that relative inability to increase the cardiac output may have an important bearing on the pathogenesis of congestive heart failure.

Relation of Hyperthyroidism to Hypertension.—In a series of 265 cases which Bisgard studied he observed that hyperthyroidism was associated with true essential hypertension

in approximately 8 per cent and with elevations of the systolic pressure above the physiologic level (above 150 mm. of mercury) in 30 per cent. Following relief of hyperthyroidism he states that there were two types of cases: (1) cases of fixed or established essential hypertension, in which the blood pressure and the course of the vascular disease were not significantly influenced by relief of hyperthyroidism, and (2) cases of latent or labile essential hypertension, in which the blood pressure showed considerable reduction after relief of hyperthyroidism or approached a normal level and maintained this level for a long period. In some cases of the second type the pressure subsequently ascends. In these cases there is excessive response in blood pressure to exercise and to the cold pressor test of Hines and Brown. It is suggested that in these cases hyperthyroidism merely precipitates or exaggerates hypertension which is latent. In both types of cases there is arteriolar disease, differing only in degree. The disease is more advanced in the first type, rendering the vascular bed inadequate for even a normal volume of blood flow. In the second type the disease may be designated as pretensive hypertension, which in time progresses to the condition of the first type.

Constrictive Pericarditis and Circulation.—Stewart and Heuer present the clinical manifestations of nine cases of chronic constrictive pericarditis. Partial pericardiectomy was performed in seven. This syndrome should be considered when there are signs of congestive heart failure in the absence of the usual causes of failure. Three of the patients appear to be "cured," three others are greatly improved and the seventh is convalescing. Studies of the circulation show that this syndrome is associated with a decrease in the cardiac output per minute and per beat, a rise in the venous pressure and a slowing of the velocity of the blood flow. These alterations are related to the obstruction to the flow of blood into the heart, that is to interference with diastolic filling and to the interference with contraction by the thickened, adherent pericardium. With pericardial resection and the subsequent clinical improvement the measurements of the circulation undergo parallel changes toward or to normal. There is parallelism in these cases between the clinical manifestations and the objective measurements of the circulation. The authors recommend surgical intervention.

Bulletin New York Academy of Medicine, New York

15: 131-220 (March) 1939

Heat Loss from the Human Body. E. F. Du Bois, New York.—p. 143.
Medical-Surgical Splenopathies. A. O. Whipple, New York.—p. 174.
Hemolytic Jaundice: Its Diagnosis, Behavior and Treatment. W. P. Thompson, New York.—p. 177.
Congestive Splenomegaly (Banti's Syndrome). L. M. Rousselot, New York.—p. 188.
Diagnostic and Therapeutic Considerations in Management of Idiopathic Thrombocytopenic Purpura. R. H. E. Elliott, New York.—p. 197.

Canadian Public Health Journal, Toronto

30: 69-118 (Feb.) 1939

Epidemiology and Etiology of Pneumonia. A. L. McKay, Toronto.—p. 69.
Pneumonia in Ontario. A. H. Sellers, Toronto.—p. 73.
Antipneumococcus Rabbit Serum in Treatment of Pneumonia. W. P. Warner, Toronto.—p. 82.
Serum Treatment of Pneumococcic Pneumonia. H. I. Kinsey, Toronto.—p. 86.
Age Distribution of the Population in Relation to Mortality. M. C. MacLean, Ottawa, Ont.—p. 91.
Treatment of Lobar Pneumonia with Antipneumococcus Rabbit Serum. E. A. Broughton, Toronto.—p. 98.
Further Observations on Brucellosis In and Around Vancouver. C. E. Dolman, Vivienne Hudson and D. G. B. Mathias.—p. 100.
Social Services and Public Health. E. H. Blois.—p. 105.

Connecticut State Medical Society Journal, Hartford

3: 105-154 (March) 1939

Perforation of the Urinary Bladder: Report of Case. K. T. Phillips, Putnam.—p. 105.
Differential Diagnosis and Treatment of Ulcerative Colitis. Z. Bercovitz, New York.—p. 107.
Chiropractic Menace Defeated. L. W. Bortree, Colorado Springs, Colo.—p. 116.

Delaware State Medical Journal, Wilmington

11: 35-50 (March) 1939

The Problem of Heart Disease as It Stands Today. T. M. McMillan, Philadelphia.—p. 35.
Therapeutics of Iron and Copper. E. Podolsky, Brooklyn.—p. 44.

Illinois Medical Journal, Chicago

75: 93-188 (Feb.) 1939

Finer Uses of the Cross Cylinder in Refraction. P. A. Halper, Chicago.—p. 115.
Carcinoma in Clinically Benign Gastric Ulcer. M. Mass and F. Steigmann, Chicago.—p. 120.
Venereal Disease: Some Reflections. J. H. Beard, Urbana.—p. 122.
Cleft Palate Surgery. L. W. Schultz, Chicago.—p. 127.
Pediatric Treatment of Otologic Sepsis, Including Meningitis. P. L. Aries, Chicago.—p. 131.
Value of the Routine Electrocardiogram. J. B. Berardi, Dwight.—p. 136.
Etiologic and Therapeutic Factors Involved in Chronic Blepharoconjunctivitis. N. K. Lazar, Chicago.—p. 141.
Venereal Disease Control. G. G. Taylor, Chicago.—p. 146.
Syphilis Control Program of the Illinois Department of Public Health. N. Toomey, Springfield.—p. 148.
Chronic Nasal Sinusitis and the External Ethmoid Frontal Sphenoid Operation. I. Muskat, Chicago.—p. 153.
Causes of Internal Hemorrhoids. C. J. Drueck, Chicago.—p. 159.
Nasal Septum Surgery in Children. M. H. Cottle, Chicago.—p. 161.
*Huntington's Chorea as Psychiatric and Social Problem in Illinois. E. I. Falstein and T. T. Stone, Chicago.—p. 164.
Present Status of Shock Treatment of "Functional" Psychoses. A. A. Low, Chicago.—p. 169.
Attempt at Laboratory Control of Scarlet Fever by Hemolytic Streptococcus Cultures. M. H. Seifert, Wilmette.—p. 174.
End Results in Treatment of Chronic Suppurative Otitis Media. G. E. Shambaugh Jr., Chicago.—p. 180.

Huntington's Chorea in Illinois.—While completing an exhaustive study of Huntington's chorea from the genealogic, sociologic, clinical, pathologic and laboratory standpoints, Falstein and Stone found that in Illinois the choreic state hospital population remains more or less constant from year to year. Equal numbers of male and female choreic persons with a positive family history have been admitted to the Elgin State Hospital; for the state of Illinois as a whole there have been more female than male admissions, though the difference is not great. The age incidence so far as onset of symptoms is concerned includes every decade up to the ninth, except the first, with the largest number of cases in the fifth. Anticipation is not a constant characteristic of the disease; on the contrary, it appears to be the exception to the rule and is to be expected usually when neuropathic stocks are interbred. Because of the relatively late onset of the disease, many of the patients are married and the eugenic problem is made more difficult as a result. The nationalities represented by the Elgin and other Illinois state hospital cases include German, English, Scotch, Irish, Slavonic, Scandinavian, Lithuanian, Italian, Jewish and Negro groups, with many mixtures as well. There is a surprising number of Germans. About four times as many patients are admitted from urban districts as from rural. Regular choreic centers have been noted in various counties in the state. Although contributing only from 0.1 to 0.2 per cent of the general state hospital population in Illinois, Huntington's chorea presents a chronic problem from the social and psychiatric points of view, offering no practical prospects of solution at this time.

Journal of Allergy, St. Louis

10: 209-316 (March) 1939

Slowly Absorbed Gelatin-Epinephrine Mixture. W. C. Spain, M. B. Strauss and A. M. Fuchs, New York.—p. 209.
*Slow Epinephrine in Treatment of Chronic Asthma. J. A. Murphy and C. A. Jones, Philadelphia.—p. 215.
Serial Studies of Blood Sugar, Blood Pressure and White Blood Cell Count in Allergic Shock. G. L. Waldbott, M. S. Ascher and S. Rosenzweig, Detroit.—p. 220.
Heterophile Antibody Determinations in 148 Allergic and 107 Nonallergic Persons. M. W. Sinclair, Bluefield, W. Va., and J. W. Thomas, Richmond, Va.—p. 228.
Sensitization of Skin Induced by Turbinal Pollen Application, Resulting in Facial Acne: Case Report. I. S. Kahn, San Antonio, Texas.—p. 235.
Relief of Severe Intractable Bronchial Asthma with Cyclopropane Anesthesia: Report of Case. N. E. Meyer and S. Schotz, New York.—p. 239.

Slow Epinephrine for Chronic Asthma.—Murphy and Jones used slow epinephrine in the treatment of nine cases of intractable chronic asthma. It was apparently as rapid and efficient for the relief of attacks as is ordinary epinephrine hydrochloride. In the patient with chronic intractable asthma slow epinephrine seems to present certain advantages that are not obtainable from the ordinary solutions of epinephrine. The

advantage is in the reduction of the number of injections required to give relief. This does not mean a reduction in the actual amount of epinephrine required. At times the absolute amount is actually increased. The physical nature of the preparation allows larger doses to be given at a single injection. Because a night's supply can be given at one time, some patients, who otherwise had to arise on the hour and inject themselves, have been able to sleep through an entire night. That this is not a coincidental occurrence is shown by the fact that withdrawal of the slow epinephrine necessitated return to frequent injections of the regular solution.

Journal of Immunology, Baltimore

36: 193-254 (March) 1939

Quantitative Studies on Neutralization of Pathogenic Agents in Tissues by Circulating Antibodies: I. Time Factors. U. Friedemann and B. Zuger, Brooklyn.—p. 193.

Id.: II. Concentration Factors: New Method for Determination of Coefficient of Distribution of Antitoxins Between Blood and Tissue Fluid. U. Friedemann, B. Zuger and A. Hollander, Brooklyn.—p. 205.

Id.: III. Permeability of Cerebral Capillaries to Antibodies. U. Friedemann, B. Zuger and A. Hollander, Brooklyn.—p. 219.

Id.: IV. Specific Factors Combining Power of Test Dose and Susceptibility of Experimental Animal. U. Friedemann and B. Zuger, Brooklyn.—p. 231.

Fractionation of Globulins of Types I and II Antipneumococcus Horse Serum. Arda Alden Green, C. F. McKhann, I. Kapnick and Kathleen R. Fahey, Boston.—p. 245.

Journal Industrial Hygiene & Toxicology, Baltimore

21: 57-108 (March) 1939

Ventilation in the Granite Industry. E. C. J. Urban, Barre, Vt.—p. 57.

Increasing the Portability of the Bausch & Lomb Dust Counter. L. Silverman and C. R. Williams, Boston.—p. 67.

Physiologic Response to Isopropyl Ether and to a Mixture of Isopropyl Ether and Gasoline. W. Machle, E. W. Scott and J. Treon, Cincinnati.—p. 72.

Dupuytren's Contraction Among Upholsterers. K. D. Smith and W. E. Masters, Columbus, Ohio.—p. 97.

New England Journal of Medicine, Boston

220: 365-406 (March 2) 1939

*Treatment of Pneumococcus Type III Pneumonia with Specific Serum and Sulfanilamide. M. Finland and J. W. Brown, Boston.—p. 365.

Comments on Clinical Studies in Patients with Kidney Diseases. G. C. Prather, Boston.—p. 373.

Injection of Lipiodol as a Guide in Estimating the Healing of Acute Empyema Cavities. H. L. Cabitt and A. Hurwitz, Boston.—p. 376.

Neurosurgery. D. Munro, Boston.—p. 380.

Treatment of Type III Pneumonia with Serum and Sulfanilamide.—Finland and Brown used specific serum and sulfanilamide, separately or in combination, in the treatment of fifty-six cases of type III pneumonia. The patients had an acute pulmonary infection with evidence from physical and x-ray examinations of either lobar or atypical (broncho) pneumonia. In each case type III pneumococci were obtained either from blood cultures or from specimens of sputum. The therapeutic serums used were mostly concentrated rabbit serums. They were given intravenously in graded doses. Sulfanilamide was usually given by mouth, but in occasional cases of severe illness it was given subcutaneously in 0.8 per cent solution in physiologic solution of sodium chloride. The usual dose was 8 Gm. during the first eight to twenty-four hours and then from 6 to 8 Gm. daily, given in equal divided doses at intervals of four hours together with the same or half the amount of sodium bicarbonate. The dose was decreased or omitted when definite improvement was evident. The clinical results, when the effect of treatment on the death rate and on the duration of the acute disease is considered, are not impressive. However, they do indicate that one is dealing with two useful therapeutic agents. The appreciably lower death rate in the nonbacteremic cases suggests that blood invasion may have been prevented by treatment in some of them. There were three recoveries from bacteremia. It is possible that two of these patients would have recovered spontaneously, since antibodies developed after the sulfanilamide therapy, but this was not true in the third case. Bacteriologic, immunologic and necropsy observations in some of the fatal cases suggest that both the drug and the antiserum, but particularly the combination of the two, had a marked curative effect on the type III infection. Adequate causes for death, apart from the specific infection, were found in an appreciable number of the fatal cases. While it is yet too soon to draw final conclusions, the circumstances suggest that the combination of specific serum and sulfanilamide is a useful and effective means of combating pneumococcus type III pneumonia.

Ohio State Medical Journal, Columbus

35: 241-356 (March) 1939

Hyperparathyroidism. H. F. Koppe, Dayton.—p. 257.

An Unusual Cause of Acute Intestinal Obstruction. C. M. Rambo, L. Lasky, Zanesville, and J. F. Iden, Dresden.—p. 261.

"Irritative" Treatment of Schizophrenia. G. H. Williams Jr., Helen Kingsbury and D. E. Bixby, Cleveland.—p. 262.

Cod Liver Oil and Vaseline Treatment of Burns. I. C. Berlien, Detroit, and J. R. Davis, Toledo.—p. 267.

Treatment of Tetanus: Further Observations. J. H. Lazzari and S. O. Freedlander, Cleveland.—p. 270.

Diagnostic and Prognostic Value of a Quantitative Test of Blood Serum. C. DeCourcy and O. F. Thuss, Cincinnati.—p. 273.

Differential Diagnosis of Right Upper Quadrant Pain. H. S. Applebaum, Cleveland.—p. 278.

Physician's Duties and Relationships in Industry. A. J. Tronstein, Newark.—p. 281.

Use of Corpus Luteum in Gynecology. D. T. Feiman, Canton.—p. 288.

Carcinoma of the Cervix Uteri. G. J. Searle, Mansfield.—p. 290.

Malignant Sebaceous Cysts: Case Report. S. Seltz, Cincinnati.—p. 294.

Precautions in Administration of Horse Serums. J. Forman, Columbus.—p. 295.

Public Health Reports, Washington, D. C.

54: 373-412 (March 10) 1939

*Association Between Rheumatic Fever and Exophthalmic Goiter. M. P. Schultz.—p. 373.

Breast and Lung Carcinoma in "A" Stock Mice. J. J. Bittner.—p. 380.

Complement Fixation Reaction of Lleras in Leprosy. S. H. Black and H. Ross.—p. 392.

Rheumatic Fever and Exophthalmos.—Schultz cites literature which shows that rheumatic fever and exophthalmic goiter frequently occur in the same individuals and that the sequence in which the two diseases become manifest varies. In the first of the two cases that the author describes exophthalmic goiter antedated rheumatic fever by seven years; in the second the former condition developed five years after the onset of rheumatic fever. The relationship of exophthalmic goiter to rheumatic fever appears to be more intimate than it is generally thought to be. Long intervals of time may separate the development of the two diseases in the same person. In such instances the latter disease does not act as an incitant of the metabolic disturbance. The frequent association of these two diseases in the same individual may be due to the presence of an underlying constitutional anomaly contributing to the development of the two.

Texas State Journal of Medicine, Fort Worth

34: 659-726 (Feb.) 1939

Most Frequent Causes of Vomiting in Infancy. R. A. Strong, New Orleans.—p. 665.

Infantile and Childhood Eczema: Clinical Picture and Treatment. J. L. Pipkin, San Antonio.—p. 676.

Role of Sensitivity in Infantile Eczema. B. Swinny, San Antonio.—p. 680.

The Problem of the Eczematous Child to the Pediatrician. J. A. Nunn, San Antonio.—p. 682.

Appendicitis in Children. G. A. Tittle, Dallas.—p. 684.

*Geographic Location of 500 Texas Toxic Goiters. C. Phillips, Temple.—p. 688.

Impressions Gained in Analyzing 10,000 Lumbar Spines. R. H. Millwee, Dallas.—p. 690.

X-Ray Therapy, a Prophylactic Agent in Prevention of Cancer. R. C. Curtis, Corsicana.—p. 694.

Roentgenologic Consideration of the Colon. R. G. Giles, San Antonio.—p. 698.

Toxic Goiters in Texas.—Phillips gives an analysis of 514 toxic goiters originating in Texas. They are of the exophthalmic, hyperplastic or toxic adenoma type and represent carefully studied pathologic material resected at operation. The cases are those from the surgical department of one hospital in Bell County observed between 1920 and 1938 and are part of a larger study of goiters of all kinds. The 514 cases were from 135 of the 254 counties in the state. The distribution was so widespread that no particular conclusions are to be drawn as to the existence of a goiter belt in Texas. No relationship is found between the occurrence of these goiters and geologic formations, rivers or recorded iodine content of drinking waters.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Bristol Medico-Chirurgical Journal

55: 211-276 (Winter) 1938

Air as a Conductor of Electricity. A. M. Tyndall.—p. 211.
Syphilis in the Tropics. T. F. Hewer.—p. 217.
A Guide Dog for the Blind. F. W. Willway.—p. 235.
Drinker's "Iron Lung" and Other Artificial Respirators. J. A. Nixon. —p. 239.

British Journal of Ophthalmology, London

23: 145-224 (March) 1939

Iritis Boeck (Sarcoid of Boeck in Iris). G. Osterberg—p. 145.
Night Blindness. Katharine Tansley.—p. 161.
Chemical Equilibrium of Interstitial Fluids and Aqueous Humor. J. D. Robertson.—p. 170.
Bilateral Mesial Superficial "Deficiency" of the Sclera (Scleral Plaques). B. Graves.—p. 191.
Significance of Errors of Refraction in Chronic Blepharitis of Children. E. J. Somerset.—p. 205.

British Journal of Radiology, London

12: 65-128 (Feb.) 1939

Simple Radiographic Methods for Localization of Foreign Bodies. J. F. Brailsford.—p. 65.
Applications of Stereoradiographic Centering Apparatus in Otology and General Surgery: I. Radiographic Analysis in Otology. C. Chaussé. —p. 76.
Id.: II. Combined Method for Localization and Extraction of Radiopaque Objects by Means of the "Light Compasses." C. Chaussé.—p. 87.
Punctate Epiphysial Dysplasia Occurring in Two Members of the Same Family. D. G. Maitland.—p. 91.
Relative Grading of Primary and Secondary Carcinoma. I. A. B. Cathie. —p. 94.
Congenital Malformation of the Cervical Spine (Klippel-Feil Syndrome). J. Lavelle.—p. 96.
Operation and Characteristics of Quartz Mercury Vapor Lamps for Ultraviolet Irradiation. G. N. Peel.—p. 99.
Beam Direction in X-Ray Therapy. J. L. Dobbie.—p. 121.

British Journal of Surgery, Bristol

26: 457-660 (Jan.) 1939

Evolution and Development of Surgical Instruments. C. J. S. Thompson. —p. 457.
*Relation of Lymphatic Vessels to the Spread of Cancer. J. H. Gray.—p. 462.
Intrapelvic Cysts, Probably of Mesonephric Origin. A. R. H. Oakley. —p. 496.
Epidermoids Arising in the Diploe of the Bones of the Skull. G. F. Rowbotham.—p. 506.
Obturator Hernia: Its Etiology, Incidence and Treatment, with Two Personal Operative Cases. C. P. G. Wakeley.—p. 515.
Simple Nonspecific Ulcer of Cecum. J. R. Cameron.—p. 526.
Carcinoma of Jejunum: Acute Intestinal Obstruction. F. M. Heggs.—p. 532.
Sarcoma of the Small Intestine with Unusual Features: Two Cases. D. L. Lewis.—p. 540.
Adamantinoma of the Tibia. R. G. Thomas.—p. 547.
Nonmalignant Stenosis of the Esophagus. G. G. Turner.—p. 555.
Hypertelorism: Notes on Three Cases. H. P. Pickerill.—p. 588.
Hyperostoses in Relation with the Meningiomas. G. F. Rowbotham.—p. 593.
Leaking Nonspecific Aneurysm of Common Iliac Artery, with Effective Treatment by Wiring. W. C. Whiteside.—p. 624.
Volvulus of the Stomach Ending in Perforation. K. C. Gharpure.—p. 630.
Volvulus of the Stomach Associated with a Rare Form of Diaphragmatic Hernia. W. C. O. Hill and M. Paul.—p. 632.

Lymphatic Vessels and Cancer.—Gray has developed a new method of injecting lymphatic vessels, using thorium dioxide sol, which allows study of the lymphatic system under various conditions. The method has been applied in twenty cases of operable cancer backed by control experiments on normal tissues and in some cases associated with injection also of the blood vessels. The deductions from these investigations are summarized by him along the same lines as those used in the British Empire Cancer Campaign Reports for 1936 and 1937. 1. The mode of spread of cancer to lymph glands is generally by means of lymphatic emboli of cancer cells carried along in the lymph stream. 2. The results indicate that cancer of its own accord does not generally stimulate new formation of lymphatic vessels except in cases in which there is substantial formation of stroma belonging to the cancer or associated precancerous changes involving the laying down of new connective tissue in relation to epithelium and when lymph glands are interfered with either by the presence within them of cancer deposits or by the abnormal state brought into being in some unknown manner by the presence of a cancer peripherally. Further work is necessary to provide proof for these phenomena, but the evidence obtained points to its being correct. 3. By the foregoing statements the author does not mean to imply that there is any evidence from his work for a lymphotropic theory of cancer. The ordinary effects of cancer in appreciable masses on the local lymphatic vessels are not lymphotropic but purely indifferent mechanical effects, leading ultimately to compression and disappearance of the lymphatic vessels within the interior of a cancer. Lymphatic thrombosis plays a small part in these phenomena. 4. Cancer cells generally do not remain for any length of time within the lumen of a lymphatic vessel; that is, the spread of cancer cells by their growth as cords in the lumens of lymphatics is an unusual phenomenon in cases of operable cancer. When it does occur, such permeation seems to be generally only of microscopic extent. The claim that destruction of permeated lymphatics and their contained cancer cells by thrombotic changes does occur could not be confirmed. 5. Based on anatomy and physiology, it seems that the focal lymph glands will be the first and most likely seat of glandular cancer metastasis. Subsidiary or collateral glands may also be involved, though it is to be expected that this will follow involvement of the ordinary focal lymph glands.

British Medical Journal, London

1: 313-370 (Feb. 18) 1939

Makers of John Hunter. W. S. Handley.—p. 313.
Chemotherapy of Gonorrhea. R. Marinkovitch.—p. 317.
*Chemotherapy of Gonococcic Vulvovaginitis, with Special Reference to Sulfapyridine. D. Kathleen Brown.—p. 320.
*Weil's Disease in Glasgow Sewer Workers. R. D. Stuart.—p. 324.
Treatment of Brucella Melitensis Infection with Prontosil. J. E. Debono. —p. 326.

Sulfapyridine in Gonococcic Vaginitis.—Brown treated twenty-seven cases of gonococcic vulvovaginitis with sulfapyridine, thirty-one with sulfanilamide and six with another sulfanilamide compound (uleron). All the patients treated were from 3 to 10 years of age. The duration of treatment was cut down to only four days for girls receiving sulfapyridine and to ten days for those receiving sulfanilamide. Perhaps the chief advantage of sulfapyridine is that there is no necessity for local treatment apart from merely swabbing the vulva with one part of acriflavine in 1,000 parts of glycerin for the first two or three days. Improvement is apparent within a few hours in some cases treated with sulfapyridine and always within two or three days for both sulfapyridine and sulfanilamide. Discounting the ten immediate failures treated with the three drugs, there were no relapses in fifty-four cases while the children remained in the home. In no case in which the rectal tests were negative at the beginning of treatment did infection occur later in the rectum. One of the patients treated with sulfanilamide showed a wart; otherwise no complications developed. Thirty-four girls remained well for from five to thirteen months, fourteen for from three to nineteen weeks and there were six late relapses.

Weil's Disease in Glasgow Sewer Workers.—Stuart points out that in the last three years in Glasgow three men appear to have died from Weil's disease and a fourth has been ill but has recovered. In the present group of workers six out of a total of thirty-six show evidence of past infection, fully supporting the evidence of Fairley and of Alston and others that leptospiral infection is definitely an occupational risk in sewer workers. Probably it will be found that Weil's disease is only an occupational risk of sewer workers in large cities in which the men actually enter the ducts. In smaller towns the work is mainly on the surface and the risk of infection must be infinitely less. Laboratory diagnosis in the first week of the disease is difficult but should always be attempted, since serum therapy is so valuable at this stage. Prophylaxis in sewer workers is difficult. Adequate vaccination with an efficient antigen will probably be the ultimate solution. This is highly successful in protecting experimental animals but is still largely experimental in man.

Guy's Hospital Reports, London

88: 371-500 (Oct.) 1938

*Experiences with Use of Intrabronchial Radon in Treatment of Bronchial Carcinoma. R. C. Brock and R. J. Cann.—p. 371.
Basal Celled Carcinoma of the Trachea: Report of Two Cases. R. J. Cann.—p. 392.
Nature of Badly Functioning Kidneys and Their Relation to the Urogenital Column of Cellular Tissue. A. R. Thompson.—p. 403.
Some Aspects of Cancer of the Prostate. A. R. Thompson.—p. 418.
Some Observations on Clinical Value of Gastroscopy. G. A. M. Lintott. —p. 422.
Fascial Spaces of the Palm: Contribution to Their Surgical Anatomy. J. E. Spalding.—p. 432.
Pneumoperitoneum: Report of Two Cases, with Remarks on Causation of Pain Referred to Shoulder After Perforation of Peptic Ulcer. J. E. Spalding and S. H. Wass.—p. 440.
Polyarticular Osteo-Arthritis in a Young Man, Associated with Chondro-Osseous Dystrophy. L. C. Thomson.—p. 446.
Study of Relation Between Nephritis and Nephrosis. C. G. Pantin.—p. 456.
Suppuration in Hip Joint. W. H. Bowen.—p. 482.
*Repeated Tuberculin Tests. J. R. Forbes.—p. 490.

Treatment of Bronchial Carcinoma with Intrabronchial Radon.—In view of the high percentage of cases of bronchial carcinoma that are unsuitable for radical surgical intervention, it is important to consider the value of other methods of treatment in the relief of symptoms and prolongation of life. Therefore Brock and Cann report their results in twenty-five cases in which the surface application of radon seeds by means of intrabronchial containers was used. In many the benefit that followed was slight or temporary or was obscured by the progress of some other feature of the disease, such as the development of local or distant metastases. For this reason the authors are not making a separate record or analysis of all the cases but have selected six for individual mention, as each of these illustrates some point of importance. In five of these six the average survival after treatment was thirteen and one half months, the longest being twenty-one months. The sixth patient died after several months of a comfortable existence. The definite improvement as a result of the treatment with radon or radium in each of the cases is most striking and instructive and should compel one to continue energetically in developing this form of treatment in selected cases. It seems that the best results of intrabronchial radon therapy are to be expected in cases of squamous cell bronchial growths in elderly men, which are naturally rather slow growing. Intrabronchial radon should not be used in preference to radical surgical intervention in curing a patient who is fit or suitable to undergo an operation.

Repeated Tuberculin Tests.—Forbes studied, in normal subjects, the results of repeated intracutaneous tuberculin tests at intervals of one, two, three, four and six weeks. The results show the almost constant occurrence of supersensitization after the first test when the test is repeated at an interval of less than three weeks. After this early increase, sensitivity tends to decline gradually under the influence of frequent repeated testing. The results, however, are by no means uniform and unexpected variations of sensitivity are common. It is emphasized that, because of the considerable variability of sensitivity in normal subjects as shown by repeated tuberculin tests, great caution must be observed in attempting to relate the results of such tests to the course of the disease in tuberculous patients.

Indian Journal of Medical Research, Calcutta

26: 597-850 (Jan.) 1939. Partial Index

Investigations on Variation of Vibrios in the House Fly. R. B. Lal, S. C. Ghosal and B. Mukherji.—p. 597.
Observations on Hemolysis by Vibrios. A. N. Goyle.—p. 611.
Calory Requirements of South Indian Children. B. G. Krishnan.—p. 631.
Relation of Inorganic Phosphate to Carbohydrate Metabolism in Normal and Diabetic Subjects. J. P. Bose and U. N. De.—p. 645.
Abstinence Symptoms in Opium Addiction and Role of Glucose in Their Treatment. R. N. Chopra and S. C. Ganguly.—p. 699.
True Achlorhydria and Anemia. R. G. Dhayagude and V. N. Khadilkar. —p. 705.
*Tetrachlorethylene in Treatment of Hookworm Disease, with Special Reference to Toxicity. P. B. Fernando, M. D'Silva, G. K. B. Stork and Grace R. Sinnatamby.—p. 759.
Cancer in India. V. Nath and K. S. Grewal.—p. 785.
Complement Fixation in Leprosy with Witebsky, Klingenstein and Kuhn (W. K. K.) Antigen: New Technic. S. D. S. Greval, J. Lowe and R. Bose.—p. 843.

Tetrachlorethylene in Hookworm Disease.—Fernando and his co-workers studied the anthelmintic activity of tetrachlorethylene in 111 patients, ranging in age from 2 to 70 years. The drug was found to be effective against hookworm, a dose of 8 cc. being the most effective. It had a slight action against roundworms. The toxicity of tetrachlorethylene has been studied and no appreciable toxic action was observed on the cardiovascular, respiratory, hepatic and renal organs, even after doses of 8 cc. In a few cases, doses of 6 cc. and more have produced symptoms of giddiness, faintness and weakness, and in one case symptoms of narcosis. These effects were only temporary. Doses of from 4 to 5 cc. may be safely given to adults, and two such treatments at intervals of ten days may be expected to cure even severe cases of ancylostomiasis. Children may be given tetrachlorethylene in doses of from four to five times the age in minims. Tetrachlorethylene, in view of its low toxicity and efficacy, is a valuable drug in the mass treatment of ancylostomiasis.

Journal of Physiology, London

95: 1-238 (Feb.) 1939. Partial Index

Touch, Pain and Tickling: Electrophysiologic Investigation on Cutaneous Sensory Nerves. Y. Zotterman.—p. 1.
Choline Esterase in Voluntary Muscle. D. Nachmansohn.—p. 29.
*Functional Disorganization of Kidney in Disease. R. A. McCance and E. M. Widdowson.—p. 36.
Actions of Quinine on Skeletal Muscle. A. M. Harvey.—p. 45.
Composition of Particles Seen in Normal Human Blood Under Dark-ground Illumination. J. J. Elkes, A. C. Frazer and H. C. Stewart.—p. 68.
Maintenance of Pregnancy in Hypophysectomized Rabbit by Administration of Estrin. J. M. Robson.—p. 83.
Prolongation of Red Cell Life by the Spleen. J. G. Stephens.—p. 92.
Size of Spleen in Relation to Blood Sedimentation Rate. J. G. Stephens. —p. 132.
Creatinine, Sugar and Urea Equilibrium Between Plasma and Lymph, Aqueous Humor, Cerebrospinal Fluid and Gastric Secretion After a Hypertonic Injection of These Solutions. J. D. Robertson and P. C. Williams.—p. 139.
Liberation of Histamine from Skeletal Muscle by Curare. M. Alam, G. V. Anrep, G. S. Barsoum, M. Talaat and E. Wieninger.—p. 148.

Functional Disorganization of Kidney in Disease.—According to McCance and Widdowson, renal function tests with inulin on five patients have shown the following during diabetic coma, Addison's disease and chronic nephritis: 1. The creatinine/inulin clearance ratios may be much below 1. 2. The urea/inulin clearance and the urine/plasma urea ratios may be extremely low. 3. Dextrose may be almost absent from the urine when the dextrose in the plasma is more than 550 mg. per hundred cubic centimeters and when inulin is passing freely into the urine. 4. The percentage of urinary sodium and chloride may be low in spite of extremely high plasma values. 5. Other functions of the kidney such as the excretion of ammonia may be unimpaired. The two possible explanations of these results are (1) that they are due to excessive reabsorption by the tubule cells caused by the loss of some normal restraining influence and (2) that the dextrose and chloride results are due to a pronounced fall in the glomerular filtration rate in kidneys with relatively normal tubules.

Lancet, London

1: 369-430 (Feb. 18) 1939

Makers of John Hunter. W. S. Handley.—p. 369.
*Suppurative Pneumonitis and Lung Abscess: Value of Radiology. A. Garland and F. R. Berridge.—p. 375.
Fibrocystic Disease of Bone with Skin Pigmentation and Endocrine Dysfunction. K. Robson and J. W. Todd.—p. 377.
Treatment of Pneumonia with 2-(*p*-Aminobenzenesulfonamido) Pyridine (Sulfapyridine). A. L. Agranat, A. O. Dreosti and D. Ordman.—p. 380.
Use of Stored Blood for Transfusion. G. A. Elliott, R. G. Macfarlane and J. M. Vaughan.—p. 384.
Collection and Transfusion of Preserved Blood: Improved Technic. C. R. Boland, N. S. Craig and A. L. Jacobs.—p. 388.

Suppurative Pneumonitis and Lung Abscess.—Garland and Berridge state that only sixteen cases of suppurative pneumonitis have been seen at a large general hospital in two years. In six cases a cavity was never demonstrated throughout the illness. The series included eleven males and five females. Assuming that oral sepsis is more common in males, it might be argued that this preponderance corroborates the view that dental sepsis is an important etiologic factor. The disease was confined to the right lung in ten cases, and for anatomic reasons septic material finds access easier on that side. Seven cases were associated directly or indirectly with inhalation anesthesia.

In eight cases the suppurative pneumonitis followed acute pneumonia and in the remaining case the origin was uncertain. It appears that something more than mere tissue necrosis is required to produce an abscess in acute pneumonia, and the conception of an area of gray hepatization breaking down into a true abscess is probably incorrect. Every case of pulmonary suppuration must pass through a preceding stage of inflammation. This presuppurative stage, especially in cases of aspiration of septic material, has been termed "pneumonitis." Kerley has observed that this condition may clear up without proceeding to abscess formation. Suppurative pneumonitis is a stage further, when actual pus is present in the lung but not necessarily in the form of a localized abscess. The true pathology and morbid histology of suppurative pneumonitis are not yet known. The authors point out that suppurative pneumonitis is quite distinct from the "simple pneumonitis" described recently by Morton Gill. The x-ray appearances of suppurative pneumonitis are not pathognomonic. It is the demonstration of a fluid level which usually first draws attention to an abscess cavity. Although differential diagnosis from a tuberculous cavity is not usually difficult, the x-ray appearances are sometimes inconclusive. Reliance must then be placed on clinical evidence and especially on the character of the sputum and its bacteriologic content. Similarly, confusion may arise when congenital cystic disease of the lung is complicated by pneumonia. A cavity obscured by pneumonitis or by effusion may sometimes be defined by using a Potter-Bucky diaphragm. Occasionally even in the acute stage of lung abscess physical signs of a cavity are present and are of invaluable diagnostic assistance. Conservative measures were adopted in every case, spontaneous healing was awaited and surgical intervention was avoided as far as possible. In only one case was there cause to regret adherence to medical treatment. A young adult with suppurative pneumonitis was treated by bronchoscopic aspiration of the pus, bronchiectasis developed and recovery has not occurred eighteen months after the onset and in one other patient after twenty-four months. One patient died. Here operation had been regarded as contraindicated, for the patient was suffering from a series of complications following acute intussusception. Operation was also withheld in a middle aged man in poor general health and in this patient bronchiectasis developed. In one case an incision into an area of suppurative pneumonitis revealed merely a lung oozing pus and no definite abscess cavity. Eleven patients recovered completely. However, fibrosis developed in two; one is presumably of a permanent type. It appears that one is on firm ground in advocating operation only when there is x-ray evidence of an abscess cavity. Progressive enlargement of the cavity represents an absolute indication for operative treatment. Operation becomes imperative when the patient's general state is deteriorating or when it is believed that the condition is becoming chronic. An empyema complicating any stage of the disease is, of course, always treated surgically.

Medical Journal of Australia, Sydney

1: 173-208 (Feb. 4) 1939

Points of Contact of Human and Veterinary Preventive Medicine. H. R. Seddon.—p. 173.
Treatment of Mental Disease by Electrotherapy. E. A. Elliott.—p. 180.
Physical Therapy in Disease and Deformity of Childhood. H. Crawford. —p. 183.
Physiotherapy and Posture, with Some Remarks on Postural Anatomy. R. S. Lahz.—p. 186.
Metropathia Haemorrhagica. H. H. Schlink.—p. 189.

South African Medical Journal, Cape Town

13: 79-114 (Feb. 11) 1939

Cazuela, a General Practitioner's Potpourri. J. F. Haegert.—p. 81.
The Nutrition Problem in South Africa. E. H. Cluver.—p. 83.
Some Nutritional Problems Among the Bantu in South Africa. F. W. Fox.—p. 87.
Occipitoposterior Position of the Vertex and "Deep Transverse Arrest" of the Head. W. H. Maxwell.—p. 95.

13: 115-146 (Feb. 25) 1939

Why Not a Carr's Splint? M. A. Lautré.—p. 117.
Abnormalities of the Urinary Tract of Clinical Importance in General Practice. R. C. Begg.—p. 121.
Treatment of Hemorrhoids with Negative Galvanism. C. G. L. van Dyk. —p. 124.
Sleeping Sickness from Bechuanaland: Case. M. J. Broderick and A. Pijper.—p. 127.

Chinese Medical Journal, Peiping

54: 491-592 (Dec.) 1938

Left Occipitoparietal Brain Tumor with Observations on Alexia and Agraphia in Chinese and in English. R. S. Lyman, S. T. Kwan and W. H. Chao.—p. 491.
Preparation and Clinical Use of Bacillus Pertussis Vaccine. J. P. Wu, F. T. Chu and C. L. Tsao.—p. 517.
Studies on Sparganum of Diphyllobothrium Erinacei in Regard to Immunity and Regeneration. L. C. Feng, R. Hoeppli and H. J. Chu.—p. 530.
Isolation of Typhus Rickettsia from Infected Animals on Zinsser Agar-Tissue Mediums. S. H. Zia, P. Y. Liu and K. H. Pang.—p. 547.
Notes on Aedes (F) Togoi Yamada as Met With in the Colony of Hongkong. R. B. Jackson.—p. 559.
Depression of Nasal Bridge and Its Plastic Treatment. M. L. Hu.—p. 563.
Schistosoma Turkestanicum in North China. H. F. Hsü.—p. 568.
Superficial Punctate Keratitis: Report of Three Cases. Y. T. Cheo.—p. 571.
Hookworm in Shaoyang, Hunan. G. H. Pearson and C. T. Yang.—p. 574.

55: 1-92 (Jan.) 1939

*Treatment of Gonorrhea with Uleron. H. E. Shih and C. C. Wen.—p. 1.
Relapsing Fever: Clinical and Statistical Study of 337 Cases. H. L. Chung and F. C. Chang.—p. 6.
Duration of Life of Fossil Man in China and the Pathologic Lesions Found in His Skeleton. F. Weidenreich.—p. 34.
Attempts to Immunize Rats and Mice Against Cysticercus Fasciolaris. L. C. Feng and R. Hoeppli.—p. 45.
Plague Work in Fukien, China (December 1935 to November 1936). Y. N. Yang, E. Landauer, C. K. Koo and P. C. Lin.—p. 55.
Calculus in Female Urethra. C. S. Huang.—p. 74.

Treatment of Gonorrhea with a Sulfanilamide Compound.—Shih and Wen used uleron, a sulfanilamide compound, in the treatment of sixty cases (seven acute and fifty-three subacute or chronic) of gonococcic urethritis in the male. Of the seven patients with acute gonococcic urethritis, six sought treatment during the first week of infection and one during the second. Intracellular gonococci were found in stained smears from the urethral discharge of all the patients, and pus and shreds were present in the urine. Of the fifty-three cases of subacute or chronic gonococcic urethritis, the duration of the disease was less than one month in nine, up to a year in twenty-three and between two and forty years in twenty-one. All these patients had previously been given some form of urinary antiseptic, which had been administered orally, subcutaneously, intravenously or locally. Frank urethral discharge was present in forty-one cases, the gonococcus was demonstrable in fifty, and shreds in the urine were found in the specimens of all the cases. The drug was administered in two or three courses separated by intervals of a week. Each course consisted of 12 Gm. of uleron, which was given in 1 Gm. doses three times a day for four days. If the smear was still positive for gonococci after the first course, a second course was given after an interval of seven days. Even though the smear was negative, usually a second course was given as a measure of caution. In resistant cases a third course was given after another interval of seven days. During the intervals if the urethral discharge was absent or became less profuse the urethra was irrigated every other day with a 1:8,000 or 1:5,000 solution of potassium permanganate. In general, the immediate effects of uleron were as remarkable as those of sulfanilamide. Symptoms disappeared promptly, especially dysuria in the acute cases and urethral discharge in the chronic cases. The stained smears from the fossa navicularis became negative for gonococci in two of the acute cases after from 27 to 36 Gm. of the drug had been taken, and in fifteen of the subacute and chronic cases after only 12 Gm. of the drug had been taken. Rapid subjective improvement was often deceiving. One of the acute cases was pronounced cured, one improved and five were unimproved; of the subacute and chronic, twelve were considered cured, twenty-five improved and sixteen unimproved. The percentages of the cured and improved cases are lower than those reported by other workers, but this may be accounted for by the strict criteria which were adopted in evaluating the results. Comparing these results with those obtained by the use of sulfanilamide, the author is impressed by the fact that the subacute and chronic cases seem to respond more readily than the acute cases and that for subacute and chronic gonococcic urethritis uleron seems to be a better agent than sulfanilamide. None of the cases of chronic gonorrheal

prostatitis were benefited by the drug. In the dosage employed, uleron appeared to be nontoxic and well tolerated. Patients who are treated with this preparation should be kept under careful observation until they are truly cured of the disease.

Journal de Radiologie et d'Electrologie, Paris

23: 49-96 (Feb.) 1939. Partial Index

Posology of Anti-Inflammatory Roentgen Therapy. J. Huguet.—p. 49.
Multiple Disseminated Calcifications in Lung in Mitral Disease. E. Munk.—p. 58.
False Gallbladder Fixed in Abnormal Position. J. Aimard.—p. 69.
*Roentgen Therapy of Morton's Disease. R. Ledoux-Lebard.—p. 71.
Simple Roentgenographic Technic and Easy Interpretation for Diagnosis of Tumors of Acoustic Nerve. J. Dereux and H. Monnier.—p. 73.

Roentgen Therapy of Morton's Disease.—Ledoux-Lebard points out that the disorder first described by Morton in 1876 is characterized by a typical plantar pain, which is localized at the fourth metatarsophalangeal articulation. He says that Pollosson of France described it under the term anterior metatarsalgia. This metatarsalgia seems to be familial in some cases, but it cannot be definitely stated whether the disorder is truly hereditary or whether there is only a hereditary anatomic predisposition. The exciting cause is usually a trauma, either continuous, such as the wearing of too narrow footwear, or sudden, such as may occur in the course of a fall during dancing or jumping. The disorder is more frequent in women than in men, for of thirty-nine cases reported in the literature thirty concerned women, and of eleven cases observed by the author nine concerned women. In case of sudden onset, a violent pain is felt in the anterior metatarsal region and usually at the fourth metatarsophalangeal articulation. In most cases the pain remains localized here but occasionally it involves also the second and third but never the first metatarsus. As a rule the disorder is unilateral, the right foot being more frequently involved than the left one. Since objective anatomic signs are absent it is difficult to establish the pathogenesis. The treatment is still undecided, but the author mentions periarticular injections of iodized poppyseed oil, infiltration with procaine hydrochloride according to Leriche's method, the wearing of orthopedic footwear and various surgical operations. He thinks that surgical operations should not be employed until roentgen therapy and the aforementioned injections have been tried. On the basis of his own experiences he regards roentgen therapy as the method of choice. Of the cases in which he used roentgen rays, nine could be observed for a sufficient length of time (more than two years) to permit an estimation of the results; seven of these nine were completely cured and another one was greatly improved; the remaining one was not benefited. The author irradiates the antero-external portion of the plantar surface and centers the rays on the head of the fourth metatarsal bone. He utilizes rays of medium penetration filtered through 5 mm. of aluminum, and he applies them in weekly doses of 200 roentgens for from four to six times. In most cases one series of treatments proved adequate, but in four cases three series had to be applied at intervals of two months.

Journal d'Urologie Médicale et Chirurgicale, Paris

47: 97-176 (Feb.) 1939

Vesical Exstrophy and Masculine Epispadias: Treatment by Prerectal Pelvic Transposition of the Bladder. H. Godard.—p. 97.
*Study of Renal Function After Conservative Operations for Reno-Ureteral Lithiasis. R. Gonzalez.—p. 110.
Uretero-Intestinal Anastomoses in Incurable Vesicovaginal Fistulas. E. Gonzalez Pastor and E. Rioseco G.—p. 128.
Tuberculosis and Renal Cysts. De Langre.—p. 138.
Vesical Diverticulum Containing More Than 1,200 Calculi and Treated by Diverticulum and Resection of Neck of Bladder. H. C. E. M. Houtappel.—p. 141.
Case of Crossed Renal Ectopy with Lithiasis. E. Dragonas and G. Cambassis.—p. 144.
Fistula and Cyst of Persisting Urachus: Case. Gonzalez Pastor and R. Gonzalez.—p. 148.

Renal Function After Operations for Reno-Ureteral Lithiasis.—Gonzalez says that the lesions produced by calculi, once their cause is eliminated by conservative surgery, nearly always show a favorable development and that anatomic as well as functional restitution of the upper urinary apparatus is to be hoped for. It is understood, of course, that the lesions are not grave and that the processes are not infectious or destructive, for such cases exceed the possibilities of conservative surgery. In patients who had undergone conservative operations the author compared the outcome of the pyelographic and functional examinations made at the time of their entrance to the hospital with the outcome of the same tests at the time of their dismissal. In the patients with septic lithiasis with impaired renal function, dilatation and other lesions, no change for the better is observed in the functional condition following the surgical operation. Patients who have been operated on return after a certain time to ask advice regarding disturbances which cannot be attributed to a relapse of the lithiasis but which are the result of the lesions caused by the calculus at the beginning of the disease. This induced the author to examine the renal function at later dates, namely three months after the operation, a year after it and in some cases at later dates. In the course of these functional tests he examined the quantity of urine, the chloride and urea concentrations, the elimination of phenolsulfonphthalein and the sediment. The x-ray examination comprised, in addition to the direct roentgenography of the urinary apparatus, ascending pyelography with a contrast medium or pneumo-ureteropyelography. The author describes the outcome of these tests in seven cases. He found that reno-ureteral lithiasis produces in the different branches of the upper urinary tract anatomic lesions the importance and extension of which depend on three factors: (1) the calculus and its localization, (2) the time that has elapsed and (3) the process of infection. He also cites animal experiments carried out by Hinman and shows that the less damaged the renal parenchyma is the more apt it is to receive the physiologic stimuli which govern the function and the reparation; that the reparation of the lesions is inversely proportional to the time that has elapsed since the changes developed; that in the cases in which one kidney remains healthy this kidney alone is capable of satisfying the demands of reparation. This explains why the lesions of the diseased kidney remain stationary. To be sure, the author recognizes the limitations of animal experiments and in the conclusion he stresses that patients with anatomic and functional lesions do not regain their function after the conservative operations and that the changes tend to increase progressively. He stresses the necessity of a complete anatomic and functional examination of the upper urinary apparatus in order to determine the degree of the changes caused by the reno-ureteral lithiasis. The prognosis must take into account the lesions as well as the time of development. The surgical treatment must be selected in accordance with the diagnosis.

Presse Médicale, Paris

47: 337-360 (March 4) 1939

Surgical Treatment and Results of Ablation in Cancer of Rectum. J. Charrier and J. Gouzi.—p. 337.
*General Biologic Action of Toad Venom. R. Cornilleau.—p. 340.

Action of Toad Venom.—According to Cornilleau the venoms, particularly those of the cobra, the bee and the toad, have been given considerable attention in recent years. His own studies were made on toad venom. He says that the tonic action of toad venom on the heart, if not actually questioned, has at least been minimized by some authors. In this connection he calls attention to Lutembacher's report in the *Presse médicale* (**46**:1469 [Oct. 5] 1938; abstr. THE JOURNAL Nov. 26, 1938, p. 2054), in which that author emphasized that toad venom is inferior to digitalin and ouabain. Cornilleau admits that for quick and strong action ouabain is the medicament of choice; however, neither digitalin nor ouabain can be used for continuous treatment, because their prolonged use involves the dangers of accumulation. He thinks that the best treatment combines the different medicaments, using the classic heart tonics at the onset and employing toad venom for the maintenance treatment. It is essential to distinguish between alcoholic and aqueous solution of toad venom. Lutembacher used the alcoholic type and observed nausea; Cornilleau, however, uses the aqueous solution of the toad venom. After citing experiments with solution of toad venom on frogs, cats and mice, he stresses the stimulating effect of toad venom on the glandular secretions. The introduction of the venom into the human organism, he says, brings into play extremely complex biochemical reactions, which operate by way of the sympathetic. At any rate, its polyvalence cannot be doubted and that is why the medication with this substance always effects an improvement in the general condition.

Schweizerische medizinische Wochenschrift, Basel

69: 233-260 (March 18) 1939

Significance of Bovine Type for Tuberculosis During Childhood. T. Baumann.—p. 233.
What Role Is Played by Anachoresis in Immunity to Tuberculosis? A. Ascoli.—p. 241.
*Relapses After Apparently Successful Pneumothorax Treatment. W. Behrens.—p. 242.
Chemotherapy of Surgical Tuberculosis. H. Büchler.—p. 247.
Hyperpyretic Moisture, Normal and Hyperpyretic Saturation Deficit and Discharge of Water From Lung at Various Body Temperatures Determined at Several Swiss Stations Located at Different Altitudes. J. Kollarits.—p. 252.
Case of Grave Tuberculous Sepsis. M. Künsch.—p. 254.

Relapses After Pneumothorax Treatment.—Behrens says that statistical reports indicate that the late results of pneumothorax therapy are not entirely satisfactory. Apparent cures, that is, cases in which relapses result, are more frequent than is indicated in the literature. The author describes his observations in five such cases that were observed by him in the course of the last two years. Two were under his control more or less continuously, whereas the other three came under his observation following completion of the pneumothorax therapy and after a relapse had occurred. He shows that these observations indicate how the late results can be improved. He emphasizes that the mere transformation of a cavity into a closed focus is insufficient. Under favorable conditions, that is, in the presence of a small new cavity and a sufficiently long maintenance of the pneumothorax therapy, cure may thus be effected. However, the aim of pneumothorax therapy is the complete cicatrization of the cavity, and this can be effected with some degree of certainty only in cavities with elastic walls, that is, in relatively new lesions (early cavity, elastic round cavity). Tertiary cavities, especially after they have reached a certain size, are unsuitable objects. In practice it is often extremely difficult to estimate the pathogenesis and age of a cavity or of a tuberculous process for which pneumothorax therapy seems indicated. Therefore, if pneumothorax therapy is decided on, all measures must be employed to realize its aim. Incompletely closed foci of caseation may lead to dissemination and exacerbation even in the course of pneumothorax therapy, and this danger becomes greater when the pulmonary collapse subsides; that is, when the pneumothorax is discontinued. The author shows that all detachable adhesions must be severed as early as possible, because only thus will the formation of a vascularized, fibrillar scar tissue become possible and only such tissue represents true cicatrization of a tuberculous cavity. At what stage and with what method the cautery is to be performed and whether this or that strand is to be severed has to be decided by the physician in each case.

Archivio Italiano di Urologia, Bologna

15: 533-634 (Dec.) 1938. Partial Index

Inflammation of External Male Genitalia: So-Called Genital Spontaneous Gangrene. R. Ascoli.—p. 565.
*Colon Bacterial Vaccines in Treatment of Infectious Cystitis. M. Patriarca.—p. 583.

Vaccine in Infectious Pyelocystitis.—According to Patriarca the most frequent cause of pyelocystitis is infection with pyogenic bacteria, especially colon bacilli. Several treatments, especially the administration of bacterial vaccines, have been resorted to. The author carried on a comparative study of the results of the administration of bacterial vaccines or methenamine in two groups of patients. The clinical and pathologic conditions were the same for the patients in the two groups. The patients had either bacterial vaccines or methenamine for ten consecutive days during which they had no other treatment. Forty-five patients of one group had polybacterial colon vaccine, which was administered by the intramuscular route. Six patients in the other group had intravenous injections of methenamine in daily doses of 10 cc. of a 40 per cent solution. The results were evaluated by the evolution of the condition as verified by microscopic examination of the urine and the behavior of cultures, which were made before and after completion of the treatment. The author found that: 1. Polybacterial colon vaccines control pyelocystitis more rapidly than the injections of methenamine. In both cases the disease may recur. Recurrences are also controllable by either treatment, with better results from colon vaccines than from methenamine. 2. Control of the infection lasts longer after the administration of colon vaccines than after treatment by methenamine. 3. Polybacterial vaccines are more effective than those prepared with only one variety of colon bacillus. The vaccine is harmless and does not provoke phenomena of intolerance.

Folia Medica, Naples

25: 113-172 (Feb. 15) 1939. Partial Index

Relation Between Regulations of Body Temperature and Metabolism of Carbohydrates. N. Festa.—p. 117.
*Ascorbic Acid in Tumoral Tissues. E. Bartolomucci.—p. 126.

Ascorbic Acid in Tumors.—Bartolomucci made quantitative determinations of ascorbic acid in tumoral and peritumoral tissues in twenty cases. He resorted to Tillmans' (2-6-dichlorophenol-indophenol), Martini-Bonsignore's (methylene blue) and Ferrari-Buogo's (precipitation of sulfydryls) technics. He found that the amount of ascorbic acid in tumoral and peritumoral tissues is increased in relation to normal tissues. Cancerous tissues contain more ascorbic acid than tissues of benign tumors. The smaller the amount of fibrous connective tissue in the stroma of a given tumor the greater the amount of ascorbic acid in the tissues. The amount of ascorbic acid in tumoral and peritumoral tissues starts increasing after infiltration of the tissues has taken place. It is moderate in benign conjunctivomas and greater in cancers, epitheliomas and sarcomas.

Jornal dos Clinicos, São Paulo

20: 17-32 (Jan. 30) 1939

*Relation Between Thyroids and Leukemia. A. Marques.—p. 17.
Semeiology of Blood in Surgery. E. Alvaro.—p. 22.

Pathogenesis of Leukemia.—Marques believes that there is a pathogenic relation between dysthyroidism and leukemia. The common pathogenic factor for the two conditions is a disturbance of the nervous sympathetic system. In either condition endocrine, leukopoietic and metabolic disorders exist. The author reports two cases of chronic leukemia. One of the patients had symptoms of hyperthyroidism. Thyroidal lesions of the type of colloidal goiter were found during the necropsy in both cases.

Deutsches Archiv für klinische Medizin, Berlin

183: 363-474 (Feb. 7) 1939. Partial Index

Demonstration of Undigested Cells from Gastric Juice. W. Hauth.—p. 363.
Constitutionally Conditioned Changes in Granules of Leukocytes. A. Alder.—p. 372.
Behavior of Indican in Organism with Especial Consideration of Its Elimination by Healthy and Diseased Kidneys After Tolerance Test. P. Schlierbach.—p. 387.
Pathogenesis and Clinical Aspects of Meningococcic Sepsis. K. Bingold.—p. 422.
*Night Blindness as Symptom of Thyrotoxicoses and of Hepatic Diseases. K.-H. Zaffke.—p. 433.

Night Blindness in Thyrotoxicosis and Hepatic Diseases.—Zaffke points out that night blindness or the impairment of the dark adaptation is a regular symptom of vitamin A deficiency. He measured the dark adaptation by means of the Birch-Hirschfeld apparatus. Examining the dark adaptation in twenty-two patients with disorders of the thyroid, he found that in all typical cases of thyrotoxicosis the adaptation curve is pathologic and indicates night blindness. Since recent investigations have demonstrated that fully developed thyrotoxicosis is accompanied by anatomic impairment of the liver and since it is known that the liver is important for the storage of vitamin A, the author assumes that the night blindness which is observed in thyrotoxicosis is a result of the thyrogenic impairment of the liver. In order to determine whether hepatic lesions as such are accompanied by night blindness that is brought on by deficiency in vitamin A, he tested the dark adaptation in twelve patients with various hepatic disturbances. He found that night blindness differs in severity in various hepatic disorders such as catarrhal icterus, engorged liver, cholecystitis and hepatic cirrhosis. The degree of impairment of the dark adaptation seems to be dependent on the severity of the hepatic impairment. The severest and most characteristic disturbances in the dark adaptation are observed in hepatic cirrhoses. Here the curve is so characteristic that it repre-

sents an important aid in the differential diagnosis of hepatic cirrhosis from other diseases of the liver. To what extent the examination of the dark adaptation represents a functional test of the liver is still under investigation.

Deutsche medizinische Wochenschrift, Leipzig

65: 241-280 (Feb. 17) 1939. Partial Index

Thyrotoxic Crisis, Thyrotoxic Coma. H. W. Bansi.—p. 241.
Indications for Arteriography and Ventriculography in Space-Limiting Intracranial Processes. W. Tönnis.—p. 246.
Thymol as Antigen. K. Hansen.—p. 249.
Genealogical Investigations in Thrombo-Angiitis Obliterans. F. Parkes Weber and H. Huber.—p. 256.
Treatment of Bronchial Asthma. W. Heinen.—p. 260.
Synthetic Testicular Hormone in Treatment of Psychic Manifestations of Senility in Men and Women. O. L. Weiss.—p. 261.
*Atabrine in Treatment of Giardiasis (Lambliasis). P. De Muro.—p. 262.

Atabrine in Treatment of Lambliasis. — Following a review of the various therapeutic methods that have been recommended for the treatment of lambliasis, De Muro points out that in 1937 Galli-Valerio suggested the use of atabrine. The excellent results obtained by Galli-Valerio induced De Muro to resort to atabrine in fifteen cases of lambliasis. Eight of the patients had chronic colitis, two had rectitis and five had intestinal, hepatic and biliary symptoms. The mode of administration of atabrine was the same as that which the author employed in patients with malaria; that is, for adults three tablets was the daily dose. This dose was divided into two or three parts, each one of which was administered immediately after meals. The medication was continued for from five to eight days. In two cases the atabrine was administered by intramuscular injection (one ampule containing 0.3 Gm. daily) but, since this mode of administration seemed to be less effective, the author recommends the oral medication. Undesirable secondary effects of the atabrine therapy were observed in only two of the cases. One patient had mild abdominal pains and another one showed yellowish discoloration of the skin and of the scleras. This yellowish discoloration is not the result of impairment of the hepatic cells but rather of the accumulation of acridine in the subcutaneous tissue. In addition to the atabrine the patients were given biliary and pancreatic preparations. The stools of the patients were examined twice a week and duodenal specimens were examined two or three times. In thirteen cases the examination of stools and duodenal contents gave negative results after five days of treatment. In the two cases in which the intramuscular administration was employed the stools were likewise normal but the duodenal specimens were not. The disappearance of the organisms was accompanied by a great improvement in the general condition and by normalization of the stools. The author concludes that, although his material is not sufficiently large to permit a final evaluation, the observations prove that atabrine exerts a parasiticidal action on Giardia intestinalis.

Klinische Wochenschrift, Berlin

18: 225-264 (Feb. 18) 1939. Partial Index

Behavior of Hepatic Glycogen During Ether Anesthesia and Its Modification by Water-Soluble Vitamins. H. J. Lauber and T. Bersin.—p. 232.
Chemical Studies on Urine of Patients with Icterus. A. Müller.—p. 235.
Problem of Micro-Analytic Demonstration of Lead in Body Fluids. H. Beck and G. Straube.—p. 242.
Habituation to Vitamin Deficiency. Anna Lánczos.—p. 244.
*Correlations Between Vitamins B_1 and C. M. Kasahara, Y. Nishizawa and S. Hirao.—p. 246.
*Value of Congo Red Test in Cancer Patients. W. Schröder.—p. 248.

Correlations Between Vitamins B_1 and C. — Kasahara and his associates report studies on animals, which they summarize as follows: 1. The antineuritic action of vitamin B_1 is intensified by the simultaneous administration of vitamin C. 2. The growth promoting factor of vitamin B_1 is influenced by the simultaneous administration of vitamin C. 3. Vitamin B_1 exerts a protective action on scorbutic guinea pigs. The authors conclude from these observations that vitamins B_1 and C are synergistic.

Congo Red Test in Cancer.—Schröder investigated the value and the usefulness of the congo red test as a functional test of the reticulo-endothelial system on fifty patients with cancer. In the individual case, the outcome of the test does not permit reliable prognostic conclusions. Although the storage capacity of the reticulo-endothelial system corresponds on the average to the general condition and to the existing defense powers, it does not furnish more information than does the general appearance of the patient or than can be learned from the other methods of clinical examination. Moreover, the method has a considerable margin of variations and of error. The author reaches the conclusion that although the congo red test has value as a scientific experiment it is of no practical value in the examination of cancer patients.

Medizinische Klinik, Berlin

35: 233-268 (Feb. 24) 1939. Partial Index

Treatment of Ophthalmoblennorrhea Neonatorum in General Practice. R. Scheerer.—p. 233.
Symptomatology of Disease of Mesenterial Lymph Nodes, Especially of Tuberculosis of These Nodes. W. Neumann.—p. 242.
Is There an Enterogenic Beriberi? H. Schroeder.—p. 245.
Value of Dextrose Clysters. K. Schwartzer.—p. 246.
*Sodium Chloride Content of Serum and Changes in Blood During Venous Thrombosis. G. Russo.—p. 248.
Puncture of Spleen as Diagnostic Method in Aleukemic Lymphadenosis. F. Velasco Montes.—p. 249.

Serum Sodium Chloride and Venous Thrombosis.—Russo mentions changes in the vascular walls, retardation of the velocity of the blood current and changes in the composition of the blood as the three factors that play a part in the development of spontaneous venous thrombosis. Many investigators ascribe the most important role to changes in the blood and recently it has been suggested that connections exist between thrombosis and dietetic or therapeutic measures, such as low sodium chloride intake and diuretic medicaments. A reduction in the sodium chloride content of the blood has been regarded as a factor that might favor the pathogenesis of thrombosis. This problem of a possible connection between hypochloremia and spontaneous venous thrombosis is of great practical importance, because in disorders in which venous thrombosis is frequent such as in circulatory insufficiencies and in certain disorders of pregnancy, salt-free diets are quite frequently employed. To throw some light on this problem the author studied the sodium chloride content of the serum in forty-four cases of thrombosis. He did not detect hypochloremia in any; the sodium chloride values were not lower than in healthy persons and so he rejects the suggestion that a chloride deficiency of the blood is a causal factor in spontaneous thrombosis. Moreover, a review of cases of hypochloremia and animal experiments on chloride deficiency failed to disclose a tendency to thrombosis. Regarding the effect on the blood of the withdrawal of sodium chloride by a salt-free diet or by diuretics and regarding the influence which withdrawal of sodium chloride has on the inspissation of the blood, on the acceleration of the coagulation and on the pathogenesis of venous thrombosis, the author says that the point of attack of the dehydration procedures is in the tissues and that, in view of the tendency of the blood to maintain its composition unchanged, the sodium chloride and water contents are not greatly modified. Moreover, the sodium chloride content of the blood has slight influence on the viscosity of the blood. The author does not believe that the development of venous thromboses in patients with heart disease is connected with the dehydration procedures. Only in exceptional cases may diuretic measures cause inspissation of the blood and a tendency to thrombosis.

Monatsschrift für Kinderheilkunde, Berlin

77: 153-314 (Feb. 17) 1939. Partial Index

Regulation of Erythrocytic Blood Picture by Sympathetic: Studies on Anemias. H. Kinkel and Gertrud Kinkel-Diercks.—p. 153.
Relation Between Sun Spots and Incidence of Diphtheria: Contribution to Epidemiology of Diphtheria. S. Belák.—p. 190.
Are Böttner's and Kauffmann's Tests Suitable Methods for Determination of Cardiac Function in Children? K. Kummer.—p. 203.
Colostrum Corpuscles. P. Forssell.—p. 215.
*Early Diagnosis of Congenital Hypothyroidism. F. Linneweh.—p. 228.
Investigations on Vitamin C Content of Cerebrospinal Fluid: Problem of Vitamin C Metabolism During Childhood. J. W. Camerer.—p. 240.

Early Diagnosis of Congenital Hypothyroidism.—Linneweh thinks that the majority of the cases of hypothyroidism that occur during childhood are congenital. In view of the fact that the one or more symptoms of congenital hypothyroidism

can frequently be traced back to the first months of life, it is surprising that the diagnosis of congenital hypothyroidism is made so rarely. This is deplorable because of the importance of early diagnosis and adequate therapy for the later development of persons with congenital hypothyroidism. Hypothyroidism does not show the same characteristic aspects in nurslings as it does in children; either the symptoms are less severe or there are signs which, considered by themselves, do not indicate the hypothyroid origin, although, considered together, they clearly demonstrate a hypofunction of the thyroid. The abortive or monosymptomatic forms (isolated dwarfism, Hirschsprung's disease and so on) are disregarded by the author. It has been observed that the weight at birth is 500 Gm. greater in the children with hypothyroidism than in the other children of the same family; this is probably due to an accumulation of water. Among the first postpartum symptoms of hypothyroidism are cold skin, tendency to constipation and thick tongue. The latter may be so large that it closes the open mouth and makes sucking difficult. The food intake is small because the metabolism is impaired. Intestinal tonus and motility are impaired. Moreover, the stools are less copious than is the case in normal children. The result of these disturbances in the digestive process is the persistent constipation, a symptom which, in young nurslings, is especially surprising. Another manifestation of congenital hypothyroidism is the quiet and apathic behavior of the nursling. Disturbance in growth is another sign of congenital hypothyroidism. Especially noteworthy is the retardation in the growth in length. At the age of 6 months the deficit in length may be 6.5 cm. One of the most characteristic signs of hypothyroidism is the retarded appearance of the nuclei of the carpal cones, but this symptom may lead to the erroneous diagnosis of rickets. As a result of this mistaken diagnosis, valuable time may be lost in unsuccessful vitamin D therapy. In this connection the author points out that nurslings with untreated hypothyroidism never develop rickets but that rickets may develop after the hypothyroidism has been treated. The anemia that is characteristic for hypothyroidism is observable also in nurslings, but it is of mild degree and, in view of the fact that mild anemias are comparatively frequent in nurslings, it is of no diagnostic value for hypothyroidism. Further, the author discusses the metabolic aspects of congenital hypothyroidism. He shows that the basal metabolism is of no value either for the diagnosis or for the control of the glandular therapy in nurslings with hypothyroidism, because of the lack of a comparative value and because of difficulties in method. The cholesterol content of the blood serum of nurslings with hypothyroidism shows a different behavior from that of older children and adults with this disorder. Whereas in children and adults the cholesterol content is increased during hypothyroidism, in nurslings with hypothyroidism it is below normal and rises to normal values during administration of thyroidin. From the observation that the cholesterol content of the blood serum of nurslings with hypothyroidism corresponds to that of the newborn, it is concluded that the physiologic increase in the cholesterol content after birth is a function of the thyroid.

Zeitschrift f. menschliche Vererbungslehre, Berlin

22: 669-812 (Jan. 23) 1939

Frequency of Occurrence of Irregular Gene Formulas for Quantitative Values of Cristae Cutis (Dactylograms) in Parents and Children. Ingeborg Metzner.—p. 669.
Criticism of New Theory of Heredity of Groups of Iso-Agglutination of Dawood Matta. L. J. Pauwen and P. Monreau.—p. 699.
Investigations on Pathologic Correlations: II. Hereditary Ataxia. H. Leers and E. Scholz.—p. 703.
*Dupuytren's Contracture as Example for Concurrent Action of Hereditary and Environmental Factors for Development of Variable Characteristic. K. Deckner.—p. 734.
Predisposition to Convulsion and Genotype. H. Nachtsheim.—p. 791.

Heredity and Environment in Dupuytren's Contracture.—Deckner says that Dupuytren's contracture is an especially suitable example for a study of the variable, hereditary physical characteristics, which become manifest only after completion of individual development. The following are the reasons why it can serve as an example of the concurrent action of hereditary and environmental factors: 1. Dupuytren's contracture develops in the majority of cases only after the subject has passed beyond the developmental years. 2. The hereditary character and the mode of transmission of Dupuytren's contracture have been demonstrated and explained in numerous genealogical trees. The number of manifestations (penetration) varies under dominant transmission. 3. The type of manifestation is subject to great fluctuations. 4. The localization of the disease process on the hands involves the possibility of great differences in the action of external influences, corresponding to the greatly differing exertion of the hands in various occupational groups. Hands are especially exposed to external influences and to accidents of all types. In estimating the historical development of the different theories regarding the pathogenesis of Dupuytren's contracture, the author evaluates hereditary factors, the effect of hyperexertion and trauma, and finally neurogenic influences. Further, he discusses the possible action of metabolic diseases. Giving his attention to the morphologic behavior of Dupuytren's contracture, he takes up the anatomic aspects, the relations to muscular torticollis and to induratio penis plastica and then compares the condition to tumors of the palmar aponeurosis. After reviewing the literature on the frequency and the age of manifestation of Dupuytren's contracture, the author gives his attention to the part played by hereditary and environmental factors in its development, emphasizing that the action of environmental factors, even in cases of severest exertion of the hands, can never have even approximately the importance of the hereditary factors; the latter must be regarded as of decisive significance. Environmental factors increase the number of manifestations only slightly; they may induce an earlier manifestation or, in some unusual cases, they may determine the manifestation entirely. In the final part of his paper the author demonstrates the forensic importance of the problem discussed, particularly in suits regarding compensation. He stresses that Dupuytren's contracture cannot be considered as an occupational disease.

Klinicheskaya Meditsina, Moscow

17: 1-144 (No. 1) 1939. Partial Index

*Cardiac Alterations in Hypertensive Disease. S. S. Vayl.—p. 3.
Roentgenologic Diagnosis of Tumors of Large Intestine. P. D. Tarnopolskaya and A. S. Rubinovich.—p. 19.
Vitamin C in Internal Diseases. S. M. Ryss.—p. 34.
Osteogenous Nephropathies and Nephrogenous Osteopathies. A. V. Rusakov.—p. 46.
Myocardial Reactions in Acute Nephritis. V. F. Zelenin, I. B. Kabakov and P. N. Stepanov.—p. 55.

Cardiac Alterations in Hypertensive Disease.—Vayl selected for a microscopic study sixty-one cases in which death resulted from hypertensive disease not complicated by arteriosclerosis or atherosclerosis of the coronary arteries. This series contained (1) a group of fourteen hypertensive patients from 20 to 38 years of age and (2) forty-seven patients from 40 to 68 years of age. A microscopic study with various staining methods was made of portions of the heart, the upper sympathetic plexus, the cervical ganglion of the vagus, the stellar ganglion and the solar, thoracic and lumbar plexuses. Altogether, some 6,000 slides were examined. He concludes that the primary phenomenon in hypertensive disease is the rise of the blood pressure and vascular spasm. The morphologic lesions of the blood vessels and of the parenchyma of the various organs with considerable alterations in the heart follow later. Cardiac alterations consist of lesions of the muscle fibers, the vessels, the interstitial tissue and the nervous apparatus. At the same time one must consider the lesions of the vegetative nervous system concerned in the innervation of the heart. Fatty degeneration of the heart was rather insignificant. The author attaches a great deal of importance to the focal destructive changes in the various muscle fibers (micromyomalacia). These may be multiple and may be localized in portions of the myocardium having a particular functional significance. Occasionally larger areas of destruction of muscle tissue were seen, sometimes accompanied by leukocytic infiltration. Lesions of the blood vessels presented a hypertrophy of the muscle wall with consequent destructive alterations, sclerosis and mild hyalinosis and in alterations of hyperergic character analogous to

the malignant nephrosclerosis of Fahr. In the interstitial tissue mild lymphoid infiltrations were found and insignificant sclerotic alterations as well as alterations of hyperergic character expressed in fibrinoid necrosis of collagenous fibers with a consequent development of hystiocytic granuloma undergoing scar transformation. Alterations of the nervous apparatus of the heart consist of lesions of ganglionic cells and of nerve fibers. The most marked lesions of the vegetative system were observed in the cervical plexuses of the sympathetic trunk, next in the ganglion nodosum of the vagus nerve, in the thoracic and lumbar sympathetic plexuses and in the solar plexus. In some of the cases the alterations in the vegetative nervous plexuses are quite marked and consist of lesions of the ganglion cells, nerve fibers and vessels. The lesions of the vegetative nervous system, once developed, influence the state of the blood pressure and the cardiac activity. The author feels that it would be faulty to look to the myocardium alone as the cause of cardiac failure in hypertensive disease. The cardiac failure involves alterations in the musculature, mesenchyma, vessels, nerve ganglions and conduction apparatus.

Acta Medica Scandinavica, Stockholm

98: 441-627 (Feb. 22) 1939. Partial Index

Vitamin B_1 in Treatment of Nervous Diseases. N. Holmin.—p. 444.
Observations on Blood Regeneration in Man: Rise in Red Blood Cells in Pernicious Anemia After Specific Treatment. E. Schiødt.—p. 449.
*New Diagnostic Features in Four Lead Electrocardiogram of Angina Pectoris. C. L. C. van Nieuwenhuizen, H. A. P. Hartog and E. Matthijssen.—p. 468.
Experimental Therapeutic Modification of Central Nervous Paralyses. Z. Brüll.—p. 500.
*Malignant Cases of Weil's Disease with Especial Reference to Early Diagnosis. S.-G. Sjöberg.—p. 536.
Secondary Wave of Contraction a Forgotten Muscular Phenomenon (Phenomenon of Schiff-Auerbach). G. Myhrman.—p. 542.
*Effect of Adrenal Cortex Extract on Basal Metabolic Rate in Thyrotoxicosis. J. S. Richardson.—p. 583.

Four Lead Electrocardiogram in Angina Pectoris.—Van Nieuwenhuizen and his associates maintain that in order to improve the diagnosis of cardiac defects it is necessary to increase the knowledge of the electrocardiographic method. In this report they call attention to nine typical changes of the electrocardiogram in angina pectoris. Two of these, the Pardee-Q and M shaped and W shaped ventricular complexes, were known before but the other seven are described here for the first time. The Pardee-Q, the "notch at the foot of RS" (positive S), the saddle shaped ST curve and the high T wave are based on a clockwise rotation of the electrical axis. Three hundred and fifty-five tracings, in which the described deviations have been found, were collected from 5,500 four lead electrocardiograms. The Pardee-Q was found in 1 per cent of all the curves. In 84 per cent of the cases, coronary sclerosis could be assumed. In nearly half the cases, cardiac failure was present. Almost half the patients suffered from angina pectoris. The deep Q in lead 3 is an important diagnostic aid. The M or W shaped ventricular complexes were seen ten and sixty-three times, respectively. Coronary sclerosis could be assumed in more than 75 per cent of the cases in which these complexes were present. In the remaining cases myocarditis, thyrotoxicosis and other disorders existed. The W shaped complexes coincided almost always and the M shaped complexes coincided always with myocardial impairment. The "notch at the foot of RS" (the positive S wave), is due in 85 per cent to coronary sclerosis; for the rest it is found in rheumatic heart disease, diphtheria, syphilis and tonsillitis. Thus the positive S indicates a distinct disturbance in the blood supply of the heart muscle. The saddle shaped ST segment, mostly together with a positive S, was found in about 2 per cent of all the curves (102 cases); 34 per cent of the patients with this deviation suffered from angina pectoris and 26 per cent had complaints which could be attributed to cardiac failure. In 64 per cent coronary sclerosis existed, in 80 per cent organic disorders of the heart muscle. In 10 per cent anginous complaints existed which were supposed to be a consequence of hypervagotonia. A saddle shaped ST segment is therefore a serious warning to give the heart muscle and coronary arteries a thorough examination. The abnormally high T wave is based (apart from its occurrence in thyrotoxicosis and mitral stenosis) in more than three fourths of the cases on organic heart disease, half of which is coronary sclerosis. In younger persons, hypervagotonia may be the cause of this phenomenon. Atrioventricular block, bundle branch block, arborization block and atypical bundle branch block (Wilson) are frequently based on coronary sclerosis. In the thoracic lead, deviations are found mostly in aged persons and rarely in young persons. Here again the deviations are (apart from bundle branch block, arborization block and atypical bundle branch block) the following: 1. Types which are similar to the C I type (posterior infarction): in contrast to what is seen in acute thrombosis, ST here runs less high above the iso-electric level. 2. Types which are similar to C II: a rectilinear descending, followed by a short rising part of the ST curve. The latter eventually continued into a positive afterstroke. In contrast with the C II type, a Q wave generally appears here and ST usually takes off almost at the iso-electric level. 3. The coronary sclerosis type: a deep Q, low R, deep negative T wave, perhaps frequently a symptom of an old posterior infarction. 4. The deep Q IV, in older persons, when longitudinal position of the electrical axis and mitral stenosis can be excluded and especially when dilatation of the left ventricle exists. The authors conclude that in patients of every age with real anginal complaints one of the features mentioned is almost always found in the electrocardiogram.

Malignant Weil's Disease.—Sjöberg gives a detailed clinical history of a case of Weil's disease which terminated in death. At an early stage of the illness the clinical course gave reason to suspect Weil's disease. The influenza-like beginning, the gradual onset and then the rapid increase in jaundice, the septic temperature with stupor, hypotension and collapse, and finally the enlarged liver, albuminuria and hematuria, anuria and uremia are all symptoms of Weil's disease with a malignant course. Hyperglycemia, although a rare symptom of Weil's disease, was also found in this case. The author further cites two similar cases of Weil's disease that were observed at his clinic by Holmgren in 1934 and 1935. He stresses the factors which these cases had in common with the case described. The bacterioserologic examination of the patient whose history is reported corroborated the diagnosis. The culture of the blood yielded spirochetes; guinea pigs that were given intraperitoneal injections of the patient's urine showed on necropsy the typical changes of Weil's disease; moreover, the postmortem examination of the patient's liver yielded spirochetes. To be sure the agglutination test was negative, but, considering the early stage of the disease, this does not contradict the diagnosis. The author thinks that, although Weil's disease is not common in Sweden, more cases might be recognized at an early stage if blood cultures were made more often. An early diagnosis is important, particularly if serotherapy is to be employed.

Adrenal Cortex Extract in Thyrotoxicosis.—Richardson says that the idea that preparations of endocrine glands other than the thyroid might be of therapeutic value in exophthalmic goiter is not a new one. From 1921 onward reports have appeared in which clinical and experimental evidence was brought forward in support of the theory that adrenal insufficiency is the underlying factor of thyrotoxicosis. After reviewing some of these reports the author says that, in view of the favorable experimental and doubtful clinical evidence, it was decided to investigate the effect of a preparation of the adrenal cortex. All patients were kept at complete rest in bed for at least ten days prior to the administration of the extract. It was injected at 6 a. m. and 6 p. m. on two successive days in 5 cc. doses at first and, in later cases, in 10 cc. doses, making 40 cc. in all (1 cc. is equivalent to 75 Gm. of dried cortex). The basal metabolic rate estimations were made at 9 a. m. under standard conditions of strict rest while fasting. Seven patients were treated with the extract, with a definite alteration in the basal metabolic rate in six. No significant symptomatic improvement was noted, and the blood pressure and pulse rate were unchanged. It is suggested that adrenal cortex extract has an effect on the basal metabolic rate in thyrotoxicosis but that at the present time such medication has little practical application.

THE STUDENT SECTION

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What the Undergraduate College Should Give the Future Doctor

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A college president might be expected to come before a group of learned men in a spirit of great humility at a time when the American college is under fire as it is today. Articles are being printed to show that business men do not value college graduates highly. Professional schools are complaining of the recruits who come up to them from these institutions. And one group of educational experts making one of the endless number of surveys under which we suffer in silence has made the profound discovery that students know less when they complete their college course than they did when they began!

However, I do not feel particularly apologetic. If any social organization in the United States does not need to be on the defensive, it is the undergraduate college. True, it has its weaknesses, but what organization does not, and what organization works more tirelessly to eliminate such weaknesses? There is no more misunderstood organization. It must attempt to be all things to all men. Furthermore, the same public which criticizes it most severely forces on it countless thousands of uneducable young men and women who retard its work and lower its standards.

Perhaps the business and industrial leaders who were not keen for college graduates are looking for a lower type of recruits. Perhaps the professional schools which criticize so strongly those who come into them from the undergraduate colleges are in some measure seeking an excuse for their own lack of educational effectiveness. And what about the survey organizations which discover that the student leaving college has acquired nothing of value in his four years of experience because he cannot pass certain examinations as successfully as he did at the beginning of his freshman year? It would be equally logical for a doctor to decide that a patient is malnourished because when he uses a stomach pump on him ten hours after a meal he discovers no undigested food in the patient's stomach. Education is a digestive process. Obviously the average freshman can pass a better examination than the brilliant graduate out of college several years.

Education is more than the acquisition of knowledge. It is the translation of knowledge into wisdom. Any one who from the inside, year after year, watches students come into college uncertain, uncouth, uninterested in the things of the mind, uncertain in character, and who sees the majority of them graduating four years later intellectually alert, mannerly, with well formed characters and well trained bodies, realizes that the undergraduate college is rendering a service of inestimable value to contemporary civilization. The general public makes the mistake of assuming that the college is a vocational institution where tricks of this, that and the other trade may be acquired, and not an institution for the building of those foundations which make for effective membership in society and for the abundant life.

Let us therefore approach this question of what the undergraduate college should give the future doctor with the realization that the doctor must be more than a medical or surgical technician and that if he is to be a true success he must develop those attributes which make his influence on his generation beneficial and constructive.

The ancient Hippocratic Oath which most young men and women repeat on the day of their graduation from medical school proclaims "With purity and with holiness, I will pass my life and practice my art." The ethical standards of the doctor, his general culture, his devotion as a citizen are no less to be considered than his technical ability.

In past days it is probable that too much emphasis has been placed on so-called pre-

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medical subjects and too little on development of habits of thought and mental attitudes and on ability to translate knowledge into wisdom.

One criticism of premedical education recently made was that the student is older than he should be when he enters the medical school. Thus, when he has completed his course, taken essential graduate work and served his internship, he has the disadvantage of years. There is some truth in this contention; but if we appreciated what education really is and did not confuse it with schooling, if the importance of the home as an educational institution were realized, this weakness would be overcome. The first five years in the life of an individual are probably the most fateful in his life. It is then that the brain expands most rapidly and every experience registers deeply. Our preschool education is being more and more disregarded and mishandled in the average home. If the proper influence were thrown around the child in those early days, the eight years of elementary schooling could easily be reduced to seven, the four years of secondary schooling to three and, for the best students, the college course to three, a total gain of three years. However, it must not be forgotten that the college must provide the future medical student with the minimum of chemistry, biology and physics; that in addition to these tool subjects there are others that are essential for him to have and which cannot be reduced too greatly if his preparation is to be effective.

THE ORIGINAL IMPULSE

When the student comes to the college and announces himself as a premedical student, great care should be exercised as to his orientation, and as soon as possible it should be determined whether or not he really has the qualifications which should send him into medicine. Some time ago, at Lafayette College, we had sixty students who were looking forward to medicine as a profession. It occurred to us that we did not know a great deal about their background. We therefore called them together to ascertain some essential facts. In the first place we found that twenty-two had decided on the medical profession before they began their high school course, that twenty-eight decided to be doctors while in high school and that only ten had made their decision in college. In other words, for many of them the impulse to be doctors was a hangover from childhood. They had looked forward to being doctors at a time when others of their playmates had thought to be policemen or firemen was the thing. We found that 25 per cent of these young men were sons of physicians, whereas 10 per cent of the prelegal students were sons of lawyers. Whether this indicated that their fathers were urging them into their footsteps to take up an established practice we do not know. In any event we had these students talked to by medical deans; we had them taken through the laboratories and dissecting rooms of medical schools and in other ways we showed them the road which they had to travel for their objectives. As a result, a few changed their course and prepared for other activities.

The undergraduate college should guard against too early specialization and the pursuit of ideas which will lead later in life to vocational maladjustment. It seems obvious that the medical profession, because of the great development of scientific knowledge, has suffered from too early and complete specialization. To the layman it appears that too many doctors today look on their patients as cases, not as human beings.

I have named the tool subjects in the college to which the premedical student must pay attention. There is a second group of subjects which are partial tool subjects for the physician. Certainly he should have a fine foundation in psychology, which will give him a helpful approach to the patient. He should have free-hand drawing and, for satisfactory office organization, some knowledge of accounting. Another group of subjects almost equally important for him are literature and the social sciences. Scientific achievement in America is at a new high but culture is near a new low. A physician to have influence in his community, and to be looked up to with respect, must have command of good English and an appreciation of good books, good paintings and good music. These accomplishments lift a man above his environment and give the doctor needed serenity and poise. Certainly from the pursuit of general history he can learn much of the progress of medicine and of the effect of health conditions on civilization during the centuries. That college which has the proper system of physical education, where all the students through remedial classes and organized games are built up scientifically, has an asset of the highest value in a work which is both physically and nervously exacting.

The lack of refined manners is proving a handicap to many men technically efficient. Beyond the curriculum subjects the undergraduate college should give the premedical student training in manners.

Talking with a head of a New York hospital board not long ago, I learned that 200 men had applied for internship there, of whom nine were to be chosen. After ascertaining the professional knowledge and looking over the personal elements in the candidates they made the final

choice on ascertaining what books and music and plays these men enjoyed. Not only did such an examination prove the breadth of culture but it also suggested an emotional stability which is not the possession of those who find their recreation in exciting and enervating entertainment of different kinds.

Briefly, what the medical schools should receive from the undergraduate colleges is men and women with a limited amount of preprofessional training but with broad culture, good physiques and nervous systems, and the proper character to uphold the ethics of the profession.

Medical History In the Undergraduate Curriculum

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Thomas Jefferson, early in the nineteenth century, recognized the value of a knowledge of medical history and advised [1] that it be included in the list of fundamental sciences considered essential in the training of the medical practitioner of his day. It was not, however, until the present century that any sustained interest was shown in the subject. During the past few years the number of publications dealing with this cultural aspect of medicine has increased. All but seven of the eighty-four schools in the Association of American Medical Colleges now offer some form of instruction in medical history to the undergraduate.[2] While there is little variation in the manner of presentation of other subjects in the medical curriculum through the use of lecture and laboratory, little uniformity has been noted in the arrangement of the course covering the history of medicine. For this reason the many undergraduates continued to regard one of the most valuable and stimulating fields of study with indifference.

Another important factor behind the lack of popularity of medical history in some medical schools is undoubtedly the manner in which it is presented. Reviewing the subject in a series of lectures in which dates and events are read in chronologic sequence by the faculty member delegated to the task fails invariably to arouse the slightest spark of interest among students. The opinion is taken away with the first lecture that medical history is indeed dry. Rows of empty benches are soon evident. Other schools have entrusted the series of lectures to more stimulating members of the faculty, who have succeeded in organizing adequate courses of instruction in this field. They have proved that much can be gained by delving into the facts of the past. Medical history in their hands has been shown to be more than a pleasant by-path apart from the main road of student travel. A leading example may be found at Johns Hopkins University School of Medicine, where systematic instruction extends over the four years of the curriculum. This well rounded course of study is duplicated in few universities of the world. Its value, in time, cannot fail to be reflected in the attitude, the ethics, the writings, the conversations and the adaptability to social changes; in short, the general culture of the graduate. One has only to compare a modern student heavily burdened with a host of unrelated facts, biochemical, anatomic, physiologic or clinical, to one whose scientific thoughts are well saturated with the historical spirit to detect at once the difference.

In the organization of a suitable course in medical history, many points must be taken into consideration. Most important is the selection of the person from the faculty to give the course. On this hinges success or failure. Eminent scholars of medical history are seldom obtainable except on rare occasions for single lectures. Consequently the assignment goes to the member of the teaching staff who has shown more than the ordinary interest in medical history. The bulk of his time, however, continues to be taken up by the teaching and the practice of his own specialty. Medical history must remain an avocation with opportunities for research sharply limited.

Efforts should at first be confined to a preparation of material for the lectures. If he realizes his limitations and handles the subject with enthusiasm, success will be assured. When success comes, it is essential for the instructor to remain on the ground floor in his relationship to his new subject. In other words, he must realize that, whatever fame he may have acquired as a physician or surgeon, he is still an amateur medical historian. If he must write in his spare hours, he should exercise great care in the selection of his topics.[3] Later I will touch on a method that I have used to improve

Read before the Section on Medical History, College of Physicians, Philadelphia, March 13, 1939.

1. Burwell, Sidney: History of Medicine: Its Introduction into General Medical Curriculum, South. M. J. 25: 427-430 (April) 1932.

2. Kiser, E. F.: A Method of Examination in the History of Medicine, J. A. Am. M. Coll. 14: 115 (March) 1939.

3. Sigerist, H. E.: Bull. Inst. Hist. Med. 4: 2, 1936.

the course for the student, at the same time safely satisfying this urge for medical historical investigation.

In the beginning of the course of instruction in this field, the fact will soon be evident that few medical students retain from high school or college enough knowledge of history to form a suitable background. Relationships between medical and other sciences must be pointed out. The student should be made to realize that the history of medicine is but a part of civilization as a whole and that it cannot be understood fully unless some knowledge is obtained of the social, cultural, political and economic backgrounds of the different periods studied. The method of acquiring historical knowledge should be stressed [4] and the student should be stimulated to investigate suggested topics. Increasing familiarity with libraries will result, and this in turn will aid in establishing a method of research of great value in later years. At all times the student must realize the direct application of a knowledge of medical history to the many problems of practice of the future.

A UNIFYING FACTOR

How to use the time allotted to medical history most advantageously is another problem of organization. Sigerist [5] believes that the minimum of time needed to cover the entire field, even in outline, is twelve hours. However, a shorter course may be possible and prove satisfactory if cooperation is obtained from other departments and the structural framework is supplemented when the opportunity presents itself. Medical history should act as one of the unifying factors in the school; for, after all, it is just as important to the biochemist, the anatomist, the physiologist and the pathologist as it is to the physician and surgeon and other clinical teachers. For, as Sudhoff states,[6] "only an ophthalmologist could write a history of his specialty that would be really worthy of the name. Only a surgeon could write a history of surgery that could be taken seriously. A suggestive and stimulating history of disease can only be written by a practitioner who is thoroughly familiar with its manifestations at the bedside." In other words, a faculty member who possesses the qualifications to teach any specialty in a medical school should be able to cooperate with the medical historian by outlining for the student in an interesting manner the history of his specialty.

In the department of medicine countless opportunities will arise on ward walks with small sections of students to dwell for a short time on the lives and the classic descriptions of disease of pioneer investigators. The newer medical textbooks have small historical sections that make the task easier. Major's recent work,[7] now in its second edition, is an excellent guide to the teacher using this method in the wards.

During the past six years at the Woman's Medical College of Pennsylvania I have given a series of lectures on the history of medicine to the second year class, comprising the first seven weeks of a course listed in the college catalogue as "Introductory Medicine." These lectures represent the first contact that the student has with the department of medicine. I believe that the best introduction to medical science (or any science) is a brief outline of the history of its development. In this short period of seven weeks, one can paint the main trends in medicine's development only in broad strokes. Few digressions from the main stream of progress are possible, but I do call attention to the many tributaries in which much pleasant sailing is possible. The following arrangement of the lectures has been adhered to since the course was begun:

Lecture 1. The Beginning: Prehistoric Medicine; Egyptian Medicine.
Lecture 2. Medicine in Ancient Greece and Rome.
Lecture 3. Medieval Medicine.
Lecture 4. Medicine in the Renaissance.
Lecture 5. The Seventeenth Century.
Lecture 6. Medicine in the Eighteenth and Nineteenth Centuries.
Lecture 7. Medicine in America.

I have recently found the syllabus published by Sigerist [5] most useful. The book list for student reading here given is carefully selected and up to date and I have used it as it stands.

Since the classes at the Woman's Medical College of Pennsylvania are small, it has proved most convenient to divide the hour into three parts: The first part, consisting of one half hour, is given over to the formal lecture. During the next fifteen minutes lantern slides are shown; these include prints, manuscripts, photographs and the like from the usual sources. During the final fifteen minutes, books related to the subject of the day are discussed. In some instances, when available, the first editions are shown. Reprints and more recent popular treatises on the subject are exhibited to familiarize the student with the book. By-ways of investigation are pointed out and questions are answered pertaining to the lecture.

A method of examination in medical history has recently been proposed.[2] A written examination of any kind, including a compulsory thesis, would defeat the purpose of the course as outlined in this presentation. The ones engaged in the teaching of medical history are attempting to add something to the undergraduate's equipment other than dates, facts or

4. Nevins, Allan: The Gateway to History, New York, Appleton-Century, 1938.
5. Sigerist, H. E.: On the Teaching of Medical History, Bull. Inst. Hist. Med. 2:123-139, 1934.
6. Sudhoff, Karl: Essays in the History of Medicine, New York, Med. Life Press, 1926, p. 51.
7. Major, R. H.: Classic Descriptions of Disease, ed. 2, Springfield, Ill., Charles C. Thomas, Publisher, 1938.

formulas that can be committed to memory for a brief space and then forgotten. The seed when planted needs time to grow. The extent of this growth in the short span of time to graduation eludes detection by any type of written examination or compulsory thesis. If proof is needed of the value of the course, it may perhaps be sought in the manner of approach to some of the questions in the final examination in medicine, if this is oral. Certainly the time allotted to medical history in most medical schools is already too meager to warrant the use of any fraction of it for any type of examination.

During the last few years one can detect an increasing interest in the course on medical history as it has been outlined here, and for that reason I have sought to relieve the monotony of the slides by the insertion, in selected places, of short motion picture films. With the aid of a local amateur theatrical company, acted scenes from the lives of historic and well known medical characters were attempted. I have used films as part of the teaching equipment during the last four years.

The addition of these scenes to the lectures stimulated interest in the course. Even with the hour shifted to 8 a. m. during the past two years, attendance has been close to 100 per cent. Therefore I believe that the films have served their purpose well. In addition, I believe that they have been of inestimable value to the subject matter of medical history in affording a means of harmlessly spending one's enthusiasm. If I have stimulated by this means even a few students to continued investigation in the field of medical history, I am satisfied, for no one knows where that will lead.

Comments and Reviews

FORMAL EDUCATION OF EMINENT MEN

Many investigators assert that the highly educated man is the average rather than the exception among persons of great historical importance. Prof. Mapheus Smith [1] of the University of Kansas has reviewed the evidence in an article concerned with formal education in the lower and higher schools. Reliable information on 29,389 persons reporting their educational background was found in Who's Who in America for 1934-1935, of whom 74.7 per cent were graduated from higher educational institutions, 86.5 per cent had attended such institutions, and 92.8 per cent had attended high schools or their equivalent. From the same source were found data over a long period of years showing the trends in educational experience of eminent persons. The significant fact brought out in the tabulations was the rapid increase in the proportion of college graduates since 1916. Before that time the proportion of college graduates had varied between 57.4 per cent and 61.4 per cent. Throughout the period of thirty-five years, college nongraduates varied within limits of 15.5 and 11.6 per cent. The proportion who had no more than secondary education rose consistently from 1899 to 1910 and then steadily declined after 1916. The proportion of those who were self educated rose to a peak in 1910 and declined to the lowest point in 1928. Nearing's study of 2,000 persons listed in Who's Who in America, 1914-1915, considered representative of the younger generation of American genius, revealed that 77.4 per cent had a four year college education, 86.9 per cent had attended college, and only 13.1 per cent had no college education. There is little difference between Nearing's figure for those who attended college for at least a short time (86.9 per cent) and the figure for the total number of persons in Who's Who in America for 1934-1935 (86.5 per cent).

In the first edition (1934-1935) of America's Young Men is a list of important men, most of whom are under 40 years of age; 95.2 per cent of them had attended college and 86.9 per cent were college graduates; in the second edition of this biennial list, 97.3 per cent had attended college and 88.3 per cent were college graduates. In view of the fact that the percentage of younger leaders with college education found by Nearing in 1914-1915 was almost identical with that for all leaders twenty years later, Smith predicts that the Who's Who in America group in 1954-1955 will be almost entirely from a college background.

In the interpretation of these data, one must take into account the general increase in college education in the United States, which was from 687 male college graduates per hundred thousand males 22 years of age and over in 1880 to 1,137 in 1920, an increase of more than 65 per cent. This figure is greater than the increase in the percentage of persons listed in Who's Who in America with a college education. The national trend toward more education partially explains the trend toward more formal education for prominent men in the present generation.

PROMINENT WOMEN

There is evidence indicating that a somewhat smaller percentage of prominent women are college trained than is true of men. Of 1,622

1. Smith, Mapheus: The General Formal Education of Eminent Men, Scient. Monthly 46: 551 (June) 1938.

women listed recently in Who's Who in America, only 52 per cent of those on whom sufficient data were given were graduated from colleges and universities or their equivalents. Another 19.1 per cent attended college without graduating, making a total of 71.2 per cent with some college education, compared with 74.7 per cent graduates and 86.5 per cent with some college training in the total Who's Who in American group. American women, Smith writes, appear to exhibit an inverse relationship between degree of recognition and degree of education. In view of the change in educational background for the total Who's Who in America group in thirty-five years, it seems likely that the difference between the educational background of women of different levels of recognition will be transitory and is largely due to age. In Who's Who in America (1901-1902) only 15.5 per cent of women listed had graduated from colleges and universities, compared with 59.1 per cent for the total group. In 1903 the figures were 23.8 per cent for women and 56 per cent for the total, and in 1934 they were 52 per cent for women and 74.7 per cent for the total. The upward trend for women has been pronounced except in the 1934-1935 period. The present difference between the sexes is not great and probably reflects the differential education of the sexes at the present time.

Some students of the subject have placed the chances for eminence of men with college education at more than a hundred times as good as those who did not have a college education. College education has been extended to increasing numbers of people who, because of the large numbers in relation to the positions of the highest social importance, cannot hope to be entered in the list of the most prominent persons unless that list is broadened. The trend signifies, it is said, that college education does not mean as much for eminence as it once did in this country, unless the definition of eminence is extended to more people.

THE TRENDS ARE CLEARCUT

From his analysis, Smith arrives at the conclusion that the trends toward more advanced education and away from lower limits of education and from self education are clearcut; also that at present there is only a small sex difference in the education of persons in Who's Who in America. A man with college education has many more chances for eminence than one whose education is not extended beyond the lower level. There are, however, many persons still doubtful whether education is responsible in any way for eminence. They say that persons who receive a formal college education have certain qualities of mental capacity and personality which are important in reaching eminence, as well as the opportunity to go to college. Those who would most likely become eminent because of qualities not due to education per se are the persons who are most likely to obtain a formal education.

Education in schools has not been necessary for the development of most of the greatest men of any historical period, if by greatest is meant the foremost ten or twenty. The things that make education formal may have had nothing whatever to do with the result.

Education, however, seems to do in a shorter length of time and more uniformly some things of unquestionable importance. It provides opportunities for contacts with experts along a certain line, experts with whom the potential man of achievement might only with difficulty come in contact outside the university. The time required to obtain the fundamentals of subjects is shortened by the organization of the curriculum. College gives more leisure for study than can be obtained in almost any other way for large numbers of people. It provides companions in study, opportunities for discussions and the joint solution of difficulties; then entrée to leading persons in certain fields is gained through universities through contact with lesser persons. Education adds to one's prestige, so that one makes progress faster. Nevertheless, such a fortunate situation is difficult to obtain.

Self education is still possible in extreme instances, as is education within the family as a first step to achievement along many lines. With the advancement of specialization, such opportunities decrease until it is possible that even the most favorable circumstances outside college will fail to produce a great scientist or other types of leaders. Formal education is more important today in many fields than formerly, and it has not reached the limit of development.

BENJAMIN FRANKLIN

Abridgment of an article by Dr. Robert D. Wright, assistant surgeon, U. S. Public Health Service, published in the *Health Officer*, February 1939.

A recent biography of Franklin by Carl Van Doren creates a new interest in this first American scientist, who to many is not known as a pioneer in medical knowledge. Benjamin Franklin was not a physician but his contributions to medicine were greater than those of many of his contemporaries who claimed the title. The profession may claim Franklin, for he was a member of the Royal Medical Society of Paris, an honorary member of the Medical Society of London, and he held membership in several medical societies in the United States.

Franklin approached medicine as he did everything—with a searching curiosity. His contributions were presented with a disarming naturalness, as if what he explained was too

obvious not to be already known. Hardly a field of medical knowledge escaped the interest of his insatiable curiosity. His medical ideas diluted by a thousand other interests and presented without pomp or attempt at effect lie buried beneath his greatness as a philosopher and statesman.

RAISING FUNDS

Franklin helped found the first hospital and the first medical school in America. The method of raising funds for America's first hospital devised by Franklin has been copied by many hospitals and other agencies to this day. According to his own account:

"I not only subscribed to it myself, but engaged heartily in the design of procuring subscriptions from others. Previously, however, to the solicitation, I endeavored to prepare the minds of the people by writing on the subject in the newspapers, which was my usual custom in such cases. . . .

"The subscriptions afterwards were more free and generous; but beginning to flag, I saw they would be insufficient without some assistance from the Assembly, and therefore proposed to petition for it, which was done. . . .

"This condition carried the bill through; for the members, who had opposed the grant, now conceived they might have the credit of being charitable without the expense, agreed to its passage, and then, in soliciting the subscriptions among the people, we urged the conditional promise of the law as an additional motive to give, since every man's donation would be doubled; thus the clause worked both ways. The subscriptions accordingly soon exceeded the requisite sum, and we claimed and received the public gift, which enabled us to carry the design into execution. A convenient and handsome building was soon erected; the institution has by constant experience been found useful, and flourishes to this day; and I do not remember any of my political manoeuvres, the success of which gave me at the time more pleasure, or wherein, after thinking of it, I more easily excused myself for having made use of cunning."

The medical department of the College of Philadelphia, which had been founded by Franklin, was organized through the labors of Drs. John Morgan and William Shippen in 1766, when systematic lectures were begun in this, the first medical school in the United States.

ARTICLES ON EATING AND DRINKING

Probably Franklin's earliest published observations on medical subjects were his lines on drinking written at the age of 16 and published in the *New England Courant* under the pseudonym of Silence Dogood. He became a vegetarian under the influence of a book by "one Tyron" and learned how to cook his own food in order to carry on this fad. But he left off in a most laughable manner which he can best describe:

"In my first voyage from Boston, being becalm'd off Block Island, our people set about catching cod, and hauled up a good many. Hitherto I had stuck to my resolution of not eating animal food, and on this occasion I consider'd with my master Tyron, the taking every fish as a kind of unprovoked murder, since none of them had or ever could do us any injury that might justify the slaughter. All this seemed very reasonable. But I had formerly been a great lover of fish, and, when this came hot out of the frying-pan, it smelt admirably well. I balanced sometime between principle and inclination, till I recollected that, when the fish were opened I saw smaller fish taken out of their stomachs; then thought I, 'If you eat one another, I don't see why we mayn't eat you.' So I din'd upon cod very heartily, and continued to eat with other people, returning only now and then occasionally to a vegetable diet. So convenient a thing it is to be a reasonable creature, since it enables one to find or make a reason for every thing one has a mind to do."

INTEREST IN HYGIENE

In a time when little was known of hygiene, Franklin was a champion of moderation in eating and drinking, of fresh air, of daily exercising, of frequent bathing.

Interest in fresh air led him to investigate the heating and ventilation of houses. Until Franklin's time smoky chimneys were the rule. One of Franklin's queries for the Junto (that eighteenth century Rotary Club which he founded and kept alive for thirty years) was "How may a smoky chimney be best cured?"

In 1742 Franklin published an essay, "New-Invented Pennsylvania Fire Places," in which he describes the advantages of a new type of cast iron heating apparatus. The "Franklin burner" is still a reality in some American homes, and modern builders are rediscovering a Franklin principle in the construction of living room fireplaces.

John Adams wrote of an incident that occurred in 1776 when circumstances compelled him to bunk with Franklin:

"At Brunswick, but one bed could be procured for Dr. Franklin and me, in a chamber little larger than the bed, without a chimney, and with only one small window. The window was open, and I who was an invalid and afraid of the air of night, shut it close. 'Oh!' says Franklin, 'don't shut the window, we shall be suffocated.' I answered I was afraid of the evening air. Dr. Franklin replied, 'The air within this chamber will soon be, and indeed is now, worse than that without doors. Come,

open the window and come to bed, and I will convince you. I believe you are not acquainted with my theory of colds?' Opening the window, and leaping into bed, I said I had read his letters to Dr. Cooper, in which he had advanced, that nobody ever got cold by going into a cold church or any other cold air, but the theory was so little consistent with my experience, that I thought it a paradox. However, I had so much curiosity to hear his reasons that I would run the risk of a cold. The Dr. then began a harangue upon air and cold, and respiration and perspiration, with which I was so much amused that I soon fell asleep, and left him and his philosophy together, but I believe they were equally sound and insensible within a few minutes after me, for the last words I heard were pronounced as he was more than half asleep. I remember little of the lecture, except that the human body, by respiration and perspiration, destroys a gallon of air in a minute; that two such persons as were now in that chamber, would consume all the air in it in an hour or two; that by breathing over again the matter thrown off by the lungs and the skin, we should imbibe the real cause of colds, not from abroad, but from within."

FRANKLIN AND SMALLPOX

Almost every one contracted smallpox in Franklin's day. The practice of inoculation was introduced into America about 1721 through the interest of Cotton Mather and was first performed by Dr. Boylstone at Boston. Franklin was an apprentice printer on the *New England Courant,* edited by his brother James. The *Courant* opposed inoculation, but Franklin was throughout his life a champion of the practice. He wrote:

"In 1736 I lost one of my sons, a fine boy of four years old, by the smallpox, taken in the common way. I long regretted bitterly, and still regret that I had not given it to him by inoculation. This I mention for the sake of parents who omit that operation on the supposition that they should never forgive themselves if a child died under it, my example showing that regret may be the same either way, and that, therefore, the safer should be chosen."

In 1759 Franklin persuaded Dr. William Heberden of London to write about inoculation as a preventive of smallpox. Franklin wrote a four page preface which is a masterpiece of statistical persuasion:

"About 1753 or 54, the smallpox made its appearance in Boston, New England. It had not spread in the town for many years before, so that there were a great number of the inhabitants to have it. At first, endeavors were used to prevent its spreading, by removing the sick, or guarding the house in which they were; and with the same view Inoculation was forbidden; but when it was found that these endeavors were fruitless, the distemper breaking out in different quarters of the town, and increasing, Inoculation was then permitted.

"Upon this, all that inclined to Inoculation for themselves or families hurried into it precipitately, fearing the infection might otherwise be taken in the common way; the numbers inoculated in every neighborhood spread the infection likewise more speedily among those who did not chuse Inoculation; so that in a few months the distemper went thro' the town, and was extinct; and the trade of the town suffered only a short interruption, compar'd with what had been usual in former times, the country people during the seasons of that sickness fearing all intercourse with the town.

"As the practice of Inoculation always divided people into parties, some contending warmly for it, and others as strongly against it; the latter asserting that the advantages pretended were imaginary, and that the Surgeons, from views of interest, conceel'd or diminish'd the true number of deaths occasion'd by Inoculation, and magnify'd the number of those who died of the smallpox in the common way: It was resolved by the Magistrates of the town, to cause a strict and impartial enquiry to be made by the Constables of each ward, who were to give in their returns upon oath; and that the enquiry might be made more strictly and impartially, some of the partisans for and against the practice were join'd as assistants to the officers, and accompany'd them in their progress through the wards from house to house. Their several returns being received, and summed up together, the numbers turn'd out as follows:

Had the Smallpox In the Common Way of These		Died	
Whites	Blacks	Whites	Blacks
5,059	485	452	62

Received the Distemper By Inoculation of These		Died	
Whites	Blacks	Whites	Blacks
1,974	139	23	7

"It appeared by this account that the deaths of persons inoculated, were more in proportion at this time than had been formerly observed, being something more than one in a hundred. The favourers of Inoculation however would not allow that this was owing to any error in the former accounts, but rather to the Inoculating at this time many unfit subjects, partly through the impatience of people who would not wait necessary preparation, lest they should take it in the common way; and partly from the importunity of parents prevailing with the Surgeons against their judgment and advice to inoculate weak children, labouring under other disorders; because the parents could not immediately remove them out of the way of the distemper, and thought they would at least stand a better

chance by being inoculated than in taking the infection as they would probably do, in the common way.

"The Surgeons and physicians were also suddenly oppressed with the great hurry of business, which so hasty and general an Inoculation and spreading of the distemper in the common way must occasion, and probably could not so particularly attend to the circumstances of the patients offered for Inoculation."

LEAD POISONING

Franklin suspected lead as the cause of "Dry Bellyach, with loss of the use of the limbs." In a letter to Benjamin Vaughan, he summarized evidence worthy of a modern textbook:

"The first Thing I remember of this kind was a general Discourse in Boston, when I was a Boy of a Complaint from North Carolina against New England Rum, that it poison'd their People, giving them the Dry Bellyach, with Loss of the Use of their Limbs. The Distilleries being examin'd on the Occasion, it was found that several of them used leaden Still-heads and Worms, and the Physicians were of Opinion, that the Mischief was occasioned by the use of Lead. The Legislature of Massachusetts thereupon pass'd an Act, prohibiting under severe Penalties the Use of such Still-heads and Worms thereafter. Inclos'd I send you a Copy of the Acct. taken from my printed Law-book. . . .

"Being in Derbishire at some of the Furnaces for Smelting of Lead Ore, I was told, that the Smoke of those Furnaces was pernicious to the neighboring Grass and other Vegetables; but I do not recollect to have heard anything of the Effect of such Vegetables eaten by Animals. I may be well to make the Enquiry.

"In America I have often observ'd that on the Roofs of our shingled Houses, where Moss is apt to grow in northern Exposures, if there be any thing on the Roof painted with white lead, such as Balusters, or Frames of dormant Windows, etc., there is constantly a Streak on the Shingles from such Paint down to the Eaves, on which no Moss will grow, but the wood remains, constantly clean and free from it. We seldom drink Rain Water that falls on our Houses; and if we did, perhaps the small quantity of Lead descending from such Paint might not be sufficient to produce any sensible ill Effect on our Bodies. But I have been told of a Case in Europe, I forgot the place, where a whole Family was afflicted with what we call Dry Bellyach, or Colica Pictonum, by drinking Rain Water. It was at a Country-Seat, which, being situated too high to have the Advantage of a Well, was supply'd with Water from a Tank, which received the Water from the leaded Roofs. This had been drunk several Years without Mischief; but some young Trees planted near the House growing up above the Roof, and shedding their leaves upon it, it was suppos'd that an Acid in those Leaves had corroded the Lead they cover'd and furnish'd the Water of that with its baneful Particles and Qualities.

"When I was in Paris with Sir John Pringle in 1767, he visited La Charité, a Hospital particularly famous for the Cure of that Malady, and brought from thence a Pamphlet containing a List of the Names of Persons, specifying their Professions or Trades, who had been cured there. I had the Curiosity to examine that List, and found that all the Patients were of Trades, that, some way or other, use or work with lead, such as Plumbers, Glaziers, Painters, etc., excepting only two kinds, Stonecutters and Soldiers. These I could not reconcile to my Notion, that Lead was the cause of that Disorder. But on my mentioning this Difficulty to a Physician of that Hospital, he inform'd me that the Stonecutters are continually using melted Lead to fix the Ends of Iron Balustrades in Stone; and that the Soldiers had been employ'd by Painters, as labourers, in Grinding of Colours.

"You will see, that the Opinion of this mischievous Effect from Lead is at least above Sixty Years old; and you will observe with Concern how long a useful Truth may be known and exist, before it is generally receiv'd and practis'd on."

NOT A DOCTOR, IN HIS OWN ESTIMATION

Franklin never considered himself a physician. In a letter to his parents, Franklin apologized for meddling in medical matters:

"Honored Father and Mother:

"I apprehend I am too busy in prescribing and meddling in the doctor's sphere, when any of you complain of ails in your letters. But as I always employ a physician myself, when any disorder arises in my family, and submit implicitly to his orders in everything, so I hope you consider my advice, when I give any, only as a mark of my good will, and put no more of it in practice than happens to agree with what your doctor directs."

EXPOSURE OF MESMERISM

Franklin's most memorable medical exploit was his exposure of Mesmerism, a quackery whose financial success is rivaled only by such nostrums as faith healing and "patent medicines." Mesmer came to Paris after being forced to leave Vienna for practicing his fraudulent animal magnetism. Among the gay and idle French nobility of Paris, "the laying on of hands" became a rage. Finally, the king appointed Franklin and four celebrated physicians from the Faculty of Paris to investigate the practice of animal magnetism. Franklin appears to have been the guiding spirit of the investigation. Using the experimental method,

the commission subjected selected patients suffering from a variety of maladies to the action of supposed animal magnetic fluid, with negative results.

SURREPTITIOUS WRITINGS

Franklin seems never to have reached a peace with his passions. He told his illegitimate son, William, "all that was known of whatever excesses there were." The most famous of Franklin's surreptitious writings is his "Advice to a Young Man on the Choice of a Mistress." This famous letter was purchased by the United States government at a cost of $30,000.

"Marriage is the proper remedy. But if you will not take this counsel and persist in thinking a commerce with the fair sex inevitable, then I repeat my former, advice,—in all your amours you should prefer old women to young ones. . . .

"In every animal that walks upright the deficiency of the fluid that fills the muscles appears at the highest part. The face first grows lank and wrinkled, then the neck, then the breasts and arms, the lower parts continuing to the last as plump as ever, so that, covering all above with a basket, and regarding that only which is below the girdle, it is impossible to know of two women an old from a younger. And as in the dark all cats are grey, the pleasure of corporeal enjoyment with an old woman is at least equal and frequently superior, every knack being by practice capable of improvement. But still, I advise you to marry directly."

DISCOVERY OF BIFOCAL LENSES

One of his casual discoveries was bifocal lenses. He wrote:

"I imagine it will be found pretty generally true, that the same Convexity of Glass through which a Man sees clearest and best at the Distance proper for Reading, is not the best for greater Distances. I therefore had formerly two Pair of Spectacles which I shifted occasionally, as in travelling I sometimes read, and often wanted to regard the Prospects. Finding this Change troublesome, and not always sufficiently ready, I had the Glasses cut, and half of each kind associated in the same Circle.

"By this means, as I wear my Spectacles constantly, I have only to move my Eyes up or Down, as I want to see distinctly far or near, the proper Glasses being always ready. This I find more particularly convenient since my being in France, the Glasses that serve me best at Tables to see what I eat, not being the best to see the Faces of those on the other Side of the Table who speak to me; and when's one's Ears are not well accustomed to the Sounds of a Language, a Sight of the Movements in the Features of him that speaks helps to explain, so I understand French better by the help of my Spectacles. . . ."

Franklin died quietly at the age of 84.

NATURE AND THE DOCTOR

Abridgment of the convocation address by Dr. Peyton Rous, delivered at the University of Michigan Medical School, Oct. 1 and published in *Science* Nov. 25, 1938.

Every good doctor is a naturalist. It is no accident that so many medical students have ranged through the fields as boys for rocks or plants or that John Hunter while at the zenith of his London practice took time to inquire into the structure and economy of whales. To be an ardent observer seems the best of qualifications for the study of medicine.

The three tasks set every human creature, to see, to know and to do, are notably difficult in the case of the physician: he has to perceive disease phenomena, to understand them, and to cure or at least make them tolerable, preventing future instances. The difficulty has been that sick and well alike have forced the doctor to act before he could know and to assume, for practical purposes, that he knew before it was possible for him to perceive. Furthermore, he has had to be infallible: error could have no place in the reckoning. Throughout countless years, people all about the doctor have cried to him "Why don't you do something?" and disease has cried even louder. He has had to do it, to do his ignorant and erring best. This is still his situation as concerns not a few ills. Each case of paralysis agitans, every inoperable cancer that he sees goads him toward action. He must still treat the insane without knowing why they are insane. Yet now at last he has to a large extent worked things round into their proper order and, what is even more important, he sees where next to direct his energies and how to bring them to bear.

This happy state of affairs is essentially recent. He has become a passionately enterprising observer. He invents instruments and technics with complete assurance that they will disclose things worth while, though he may not know what.

The sick have always had more signs and symptoms standing plain to view than the doctor was able to note, even when he had only the outside of the human creature to scrutinize. For generations doctors have been schooled more earnestly in observation than any other large group of men. A keen doctor can still discern new signs and symptoms in diseases long held wholly familiar. It was only yesterday in medical time that those little spots on the inside of the mouth were pointed out which help so much in the recognition of measles. Of late it has become plain that even the doctor has perceived but a small part of the mental workings of healthy man, let alone those of the sick, and that there are reaches of thought far beyond its immediate spectrum. One might have supposed that some of those subtle individuals existing in all ages, to whom guile has been

a pastime and thinking a diversion, would have discovered these reaches and made them familiar. The opportunities were there and the technical means, namely sharp and capable mentalities. The impediment lay in the second of the doctor's tasks, that of interpreting what he saw. Observing seems less necessary when all is sufficiently explained, and what one sees looks different in the light of explanations. He propounded "systems" of medicine (textbooks still flaunt the term) which were so beautifully imagined that they made further search for the causes of disease an impertinence.

THE STUDENT SEES KNOWLEDGE

This effort to explain phenomena before they were fully perceived was not unique with the doctor. It has been the bane of discovery in every field all along. While man is a curious animal, the vice of his curiosity is the ease with which it can be satisfied. Now we try to be dissatisfied with explanations for phenomena not wholly understood, but are we always successful? To the medical student that textbook still seems most worth while which explains best. And he admires those instructors who appear bright and sure in their replies, detesting such as wander uncertainly through the laboratory, qualifying their answer to every question and obviously oppressed with what they do not know. The student sees knowledge as exquisitely sharp and clear because his instructors have not had time to dwell on its blurred outlines and nuances.

This confidence that knowledge is precise cannot last more than a year or two; it is shaken out and away by the facts that buffet the young practitioner from every side. As he goes on with his life he sees the impossible prove real so often that he becomes a humble as well as an ardent observer. The discovery of the roentgen rays may be said to have ushered in a medical era characterized by increasing surprise and humility. It is difficult to realize that only a generation ago men deemed cod liver oil a household remedy perpetuated by superstition and doubted whether sunlight had any virtue beyond the psychic. They then thought of foods wholly in terms of fats, carbohydrates and proteins, mentioning salts, condiments and spices merely for completeness sake, since there were no calories in them and calories were what counted. In that confident period the doctor had suddenly learned so much through his own efforts that he had become mind proud. Now the empirical good has once again made its weight felt and we are again prepared to take hints from the past experience of the race on how to maintain health and to assume there may be reason in them, though we know it not.

In those dark ages of medicine when thinking made things so, there were immense opportunities for the wrong sorts of men, those who had the endowment of visionaries, oftentimes religious. The desire to do good is a magnificent reason for wishing to become a doctor, but it is no sign of fitness. Certainly one would not care to have a great poet or artist as one's physician, no matter how much he knew. For what these see they transmute. A little poet, a minor artist, those who draw their main strength from the sensitive perception of realities, yes, they will do better than well in coping with disease; and there have been many such among good physicians. But the visionary is an unnaturalist; as a doctor he runs amuck. He becomes the most dangerous and effective of all quacks, limpidly sincere and often lovable as a person, carrying his fellow mystics along with him joyfully and dominating ignorant folk through the vigor of his convictions. In the old days the honest mystic had every chance to do the harm of his beliefs. Now he stifles in the atmosphere of medicine, its facts harry him, and he seeks the wide air of occupations in which there are more unconsidered variables.

Nevertheless, as is well known, misbegotten, a priori philosophies explaining all of disease and all its cure are still rife in civilized communities. But now doctors as a class go free of them. It is the laity among whom they make play. Yet a clever new thought affecting the interpretations or treatment of disease will always take strong hold on the doctor. Anybody who scans that microcosm THE JOURNAL for the last thirty years can follow the rise and fall of many an alluring idea. It spreads swift as a contagion, is acclaimed, is utilized everywhere, but at long last begins a lingering disappearance from the literature. Where are the opsonic index, the ninhydrin reaction of yesteryear? The clever idea spreads so fast not only because of the urgency of human need, though this is the prime reason, but because doctors are still school men in some degree, easily governed by ingenious thoughts, rising with enthusiasm to notions that are attractive, and loving to think and work and discuss in company.

Though the doctor can no longer be a metaphysician, much less a mystic, in his interpretation of disease processes, he yet must recognize the force of the mystical point of view. He knows that the mystic has a place and a power in human affairs, that he constitutes a saving opposition to received ideas, leavens the human lump. Yet he realizes also that the mystic cannot be a wise physician.

The third of the doctor's tasks, that of setting things right, is the only one that the public really cares about. Here in all ages there has been the physical devil to pay whenever idea has prevailed over fact. Too often the physician has been unable to see that his triumph of mind over matter was an empty one.

Even when the old doctor was not empowered by rationalization, when they had not made of him a doctrinaire, there yet existed a strong reason why he should persist in a way of treatment that appeared to do harm. Take Benjamin Rush, for example, a hard headed, sensible man. He was at his wit's end to treat yellow fever in Philadelphia in 1793 when he found, while searching for what had been done previously, that a Scotch physician had thought violent purgation to be effective in the Virginia epidemic of 1743. Thenceforth Rush purged and bled with all the energy of a courageous and devoted character. So doing he gave impetus to the American school of bleeders, and they continued to take toll until far into the next century.

THE PARADE OF EFFICIENCY

There was the more reason for the old doctor to hold fast to his ideas, because both his ignorance and the public forced on him the role of seer. The sick have always thought of doctors not as they are but as they would wish them to be. They place trust, they are not prepared to excuse. He has accepted this reliance on him as implicit in his situation, and the result has been not an absurdity but a relationship fine in human values. The doctor has had to be self confident to gain best results. The gold-headed cane of the eighteenth century doctor, his dignity, the ritual formality of his visits to the sickroom, though aiding the patient's state of mind, often trapped him into thinking too well of his own abilities and fenced him in this way from nature. The parade of efficiency in the modern hospital, its cool and silent whiteness, its swiftness in action, the deference to the chief on "rounds," the whole arresting contrast with the outside world, mean more than a task undertaken with the ailing body and release for the patient from responsibility for himself—they imply that things will actually be done with more understanding and more surely than in any other sphere of human effort. But while in this way they help the sick, to no negligible extent they bring risk to the doctor. Their effect on him might be damaging were it not warded off by the disclosures of the clinical laboratory, the x-ray department, the post-mortem room, which keep him chastened and effective.

We no longer see disease as disorder, though the term still holds place as a synonym. We perceive that, no matter how abnormal a body state may be, it is still natural. To the scientist even the iridescence of decay, the scum on the pool, are the expression of laws which might be termed wholesome if the word had any meaning in such connection. And with the extension of this view to the public has come a vast relief. For sickness was indeed appalling when it seemed to come out of nowhere and to be obedient to nothing. The special horror of the pestilences was that they walked in darkness. This horror is felt still in relation to a few diseases, notably cancer, but even in these the doctor can perceive laws. To the public yellow fever is now only a virus disease transmitted by mosquitoes, and the plague a bacterial infection. Such knowledge would be fortifying, even if they came again.

The doctor himself has become the complete realist that he has always wanted to be. Facts are his familiars and mold his thought. He still cures in many ways that he does not understand, but now he begins to feel a slight humiliation when so doing. In his primary task of observation he is more than ever behind. Despite all his instruments he is still hampered by sheer inability to perceive, while furthermore the scope of the perseptible has broadened incredibly. It provides one of the greatest of present dangers to the doctor's relations with nature. So much of detail there is for him to look on and realize as to bring risk that at times he may not see the organism as a whole. Yet this is his culminating duty. The wisest physicians will always be general practitioners in the sense that they deal in thought with the whole case.

In the eighteenth century the activities of the doctor as a field naturalist sometimes brought great discovery. Withering was the very man to have been told that a "wise woman" in a nearby village cured dropsy with decoction of herbs. There were more than twenty of them in the mixture, yet, as he remarked, the problem presented no difficulties. Withering, who knew botany, had already produced a compendium of British plants that was to be used for generations after him. Jenner did not have a casual chat with a milkmaid and then take a fling at vaccination. Living in the country and keen about animals of all sorts, his observations convinced him that cowpox and the "grease" in horses represented smallpox in an innocuous form; and after his first successful inoculation he waited nine years, rejecting material after animal material, before he got one that seemed right in his experienced view. With it he made the test which justified publication.

Now as field naturalists we roam chiefly within the body. Bacteriology has supplanted botany, and the habits of organs seem more important than those of animals. It has dawned on us that the happenings in animals and plants have far greater meaning for us than their forms would imply. The same insulin that works in the codfish will save a diabetic man. What takes place within animals and plants is our own vital concern. Nothing in medicine has bettered so much throughout the years as the doctor's relations with nature. Now he is more of a naturalist than ever.

Medical College News

Medical schools, hospitals and individuals will confer a favor by sending to these headquarters original contributions, reviews and news items to be considered for publication in the Student Section.

Student Wins State Society Prize

The Iowa State Medical Society awarded its annual Baldridge-Beye Memorial Prize of $100 April 25, during the annual meeting in Des Moines, to Ray E. Trussell, junior student in the State University of Iowa College of Medicine, Iowa City. The prize is given annually by the state society to that student of the State University of Iowa College of Medicine who presents the best thesis on his original investigations. Mr. Trussell's thesis was entitled "Hypersensitivity as a Factor in Chronic Monilia Vaginitis."

A Home for Cook County Interns

The West Side Hospital building, 1850 Harrison Street, has been sold to Cook County and will be remodeled for use as a home for the interns of Cook County Hospital, Chicago, and for the treatment of outpatients. The West Side Hospital was a 165 bed hospital established in 1896. The hospital's license was revoked in June 1938 by the Chicago Board of Health, which, according to newspaper reports, had on several occasions ordered the hospital to renovate the institution and make changes in accordance with the board's recommendations. Although the hospital's license was restored later, the hospital operated on a deficit, and Federal Judge Holly, in March 1939, ordered the trustees of the hospital to begin negotiations for its sale.

Student Awarded Ricketts Prize

The Howard Taylor Ricketts Prize at the University of Chicago has been awarded to George Hartley Jr. for work on the local formation of antivaccinial antibodies by the skin. After inducing macrophages to converge by injecting a substance into the skin, then injecting cowpox virus into this area, Hartley was able to show that antibody capable of neutralizing vaccinia virus appeared before it could be demonstrated in the blood. The practical implications of the experiments hinge on the possibility of building up "local" defenses in the body so that micro-organisms entering the body may be more effectively localized and more quickly destroyed.

The Ricketts Prize was established in 1913 in honor of Dr. Howard Taylor Ricketts, bacteriologist at the University of Chicago, who contracted typhus fever while studying that disease in Mexico and died May 3, 1910. The Ricketts prize is awarded annually on the anniversary of Dr. Ricketts' death to a student in the department of pathology or bacteriology for notable research.

Tenth Anniversary of Premedical Club

The tenth anniversary of the founding of the Pre-Medic Club of the Central Y. M. C. A. College, Chicago, was celebrated Friday evening May 26, in the Lincoln Room, to which students in the medical and dental schools of Chicago were invited. The principal address was given by Dr. Karl A. Meyer, medical superintendent of Cook County Hospital. The activities of this club have consisted of bimonthly meetings, tours of medical interest, yearly exhibits and public health campaigns in the college and the publishing of the *Pre-Medical Journal*. Richard Alpert is chairman of the board of directors for this semester, and David Rumack is president of the club.

Course on Medical Ethics

The school of medicine of Louisiana State University, New Orleans, began a series of lectures on medical ethics March 24, to be continued seven weeks. The first lecture was given by Dr. James T. Nix, dean, Graduate School of Medicine, New Orleans, and his subject was "Personal Relations Between Physician and Patient." Dr. Asahel J. Hockett, superintendent of Touro Infirmary, will discuss hospital administration with particular reference to the introduction of the student to internship. Other lecturers included: Louis J. Bristow, superintendent of the Southern Baptist Hospital, on what the hospital expects of its staff; Dr. George S. Bel, director of the Charity Hospital of Louisiana, New Orleans, on the relation among physicians as set down by codes of ethics, and Dr. Isidore Cohn, professor of surgery at the Graduate School of Medicine, on fee splitting.

These lectures followed a series of lectures on medical economics, which in turn followed lectures on medical jurisprudence, all of which were given for the first time at the school this year.

Evenings of Fine Music

Students and members of the faculty of the University of California Medical School, San Francisco, have enjoyed a series of evenings of fine music at the school from the Holbrook Memorial Phonograph Collection of the University of California. The April concert was devoted to the works of Chopin, and the May to those of Tchaikovsky. The March program included the works of Strauss, Mozart, Verdi, Puccini, von Weber and Wagner.

The Mayo Lecture at Michigan

The annual William J. Mayo Lecture at the University of Michigan Medical School, Ann Arbor, was delivered April 28 by Dr. Harold I. Lillie of the division of otolaryngology of the Mayo Foundation, Rochester, Minn., on the subject "Correlation of the Special Practice of Otolaryngology with the General Practice of Medicine."

The Capps Prize Awarded

The $400 Joseph A. Capps Prize in medical research of the Institute of Medicine of Chicago has been awarded for 1938 to Dr. Broda O. Barnes, who graduated from Rush Medical College, Chicago, in 1937, for his paper on "Observations on the Adrenogenital Syndrome." The prize, founded by the late Dr. Edwin R. LeCount, is awarded annually for the most meritorious investigation in medicine completed by a graduate of a recognized medical school in Chicago within two years after the completion of an internship or of one year of laboratory work.

Internships in the Marine Hospitals

The U. S. Public Health Service desires to receive applications for appointments as second year interns in the marine hospitals operated by the service. Applicants must not be over 30 years old, must have graduated from accredited medical schools and must have completed one year's internship at approved hospitals by next June. Second year internships at marine hospitals are similar to residencies in general hospitals. Appointees will receive a gross pay of $1,800 a year,

from which a deduction of $690 a year will be made if quarters, subsistence and laundry are furnished. Those assigned to the federal penal and correctional institutions will receive $1,620 a year, from which $240 will be deducted if quarters, subsistence and laundry are furnished. It is especially desired to receive applications from candidates who are interested in the service as a career, and appointments will be made with the understanding that opportunity will be afforded to take the next examination for appointment as assistant surgeon. The rank of assistant surgeon corresponds in pay and allowances to that of first lieutenant in the U. S. Army. Those who wish to make application should communicate at once with the Surgeon General, U. S. Public Health Service, Washington, D. C., stating definitely that they are interested in a second year internship and giving the earliest date of their availability.

First Annual Lecture

Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, gave the first annual lecture for the faculty and students of Columbia University College of Physicians and Surgeons, New York, under the auspices of Iota chapter of Nu Sigma Nu April 12. Dr. Fishbein's subject was "The Social Aspects of Modern Medicine."

Regional Convention of Medical Students

The first annual New England Regional Convention of the Association of Medical Students was held at Harvard Medical School, Boston, April 1-3. Dr. Harold E. MacMahon, professor of pathology and bacteriology, Tufts College Medical School, Boston, made the introductory speech; Dr. Hugh Cabot, formerly professor of surgery in the Graduate School, University of Minnesota, discussed "Problems of Medical Care." The following afternoon a symposium on the distribution of medical care was presented by D. V. Brown, Ph.D., assistant professor of industrial relations, Massachusetts Institute of Technology; George Perrott, secretary, Interdepartmental Committee to Coordinate Health and Welfare Activities, and Dr. Elliott P. Joslin, clinical professor of medicine, emeritus, Harvard Medical School. Dr. John P. Peters, professor of medicine, Yale University School of Medicine, addressed the dinner meeting. Clinics arranged for this meeting were held by Dr. Tracy J. Putnam, professor of neurology, Harvard Medical School, on "Dyskinesias," and by Dr. Siegfried J. Thannhauser, associate professor of medicine, Tufts College Medical School, on "Liver Disease."

Student Analysis of the Faculty at Louisiana

An analysis by the staff of the *Tiger*, a student publication, assisted by Elizabeth McFetridge, medical editor, of the educational qualifications of the nearly 200 members of the teaching staff of Louisiana State University School of Medicine shows that graduates of fifty-nine American medical schools and thirteen foreign medical schools and eighty-four American hospitals are represented in the undergraduate training or in teaching experience. Seventy-nine members of the faculty graduated from Tulane University of Louisiana School of Medicine, New Orleans, six from Johns Hopkins University School of Medicine, Baltimore, five each from Rush Medical College, Chicago, and the University of Tennessee College of Medicine, Memphis, and three each from the University of Pennsylvania School of Medicine, Philadelphia, University of Minnesota Medical School, Minneapolis, and the University of Louisville School of Medicine. Forty-six members of the faculty have B.A. degrees, fifty-nine members have B.S. degrees, fifteen have M.A. degrees, and seventeen have Ph.D. degrees.

Intern-Staff Dinner at University Hospital

A dinner meeting attended by interns, assistant residents and staff members of professorial rank of the University Hospital, Ann Arbor, Mich., was held March 21. Some of the senior staff members recalled conditions in the hospitals before regular intern appointments were customary and when senior students assisted physicians by carrying out some of the duties now assigned to the interns. Improvements in intern training and developments in residencies in the specialties were discussed. Some members of the present intern staff were called on for suggestions and criticisms in regard to the intern service. This was a profitable event, and plans are being made for frequent meetings of this sort in the future.

New Department of Medical Economics and Postgraduate Instruction

A new department of medical economics and postgraduate instruction has been created at the Indiana University School of Medicine, Indianapolis. The chairman will be Dr. Cyrus J. Clark, who also will be associate professor of cardiology. The additional personnel of the new department will be as follows:

Dr. Leonard A. Ensminger, professor of orthopedic surgery and assistant in medical economics and postgraduate instruction.

Dr. Louis H. Segar, clinical professor of pediatrics and assistant in medical economics and postgraduate instruction.

Dr. Jacob K. Berman, assistant professor of surgery and assistant in postgraduate instruction.

Dr. Howard B. Mettel, assistant professor of pediatrics and assistant in medical economics and postgraduate instruction.

Dr. John E. Owen, assistant professor of surgery and assistant in medical economics and postgraduate instruction.

Dr. Ernest O. Asher, associate in medicine and assistant in medical economics and postgraduate instruction.

Dr. Kenneth G. Kohlstaedt, associate in medicine and assistant in medical economics and postgraduate instruction.

Dr. Walter P. Morton, associate in genito-urinary surgery and assistant in medical economics and postgraduate instruction.

Dr. William N. Wishard Jr., associate in genito-urinary surgery and assistant in medical economics and postgraduate instruction.

James E. Moffat, Ph.D., professor of economics.

Dr. Thomas S. Cullen Retires as Professor

Dr. Thomas S. Cullen has retired as professor of gynecology at Johns Hopkins University, Baltimore, which position he has held for almost twenty-two years, and will receive the title of professor emeritus. Dr. Cullen was born at Bridgewater, Ont., in 1868 and graduated from the University of Toronto Faculty of Medicine in 1890 as a silver medalist. He served as chairman of the Section on Obstetrics, Gynecology and Abdominal Surgery of the American Medical Association, 1914-1915, and has been a member of its Board of Trustees since 1929.

Annual Reunion at University of Cincinnati

The Annual Reunion of the College of Medicine of the University of Cincinnati will be held Saturday June 10. Dr. Robert H. Kotte, president of the alumni, and a committee are in charge of the program. At 9: 30 a. m. rounds will be made in the surgical service with Dr. Mont R. Reid, in the pediatric service with Dr. A. Graeme Mitchell and in the medical service with Dr. Marion A. Blankenhorn. A banquet will be held at 7 o'clock in the evening at the Netherland Plaza Hotel. The principal speaker will be Dr. Carl A. Wilzbach, commissioner of health of Cincinnati. The 1939 Reunion has been affectionately dedicated to Dr. John C. Oliver. Dean Alfred Friedlander will present the graduating class, the members of which will be inducted into the alumni association.

New Professors at Washington University

Dr. Dalton K. Rose, associate professor of genito-urinary surgery, Washington University School of Medicine, St. Louis, has been made full professor and head of that division in the department of surgery. Dr. Rose was born in 1886 and graduated from Washington University School of Medicine in 1915. Dr. Robert A. Moore, assistant professor of pathology at Cornell University Medical College, New York, has been appointed Edward Mallinckrodt professor of pathology and head of the department at Washington University School of Medicine, St. Louis. Dr. Moore was born in Chicago in 1901 and received his M.D. degree from Ohio State University, Columbus, in 1928.

Gold-Headed Cane Bestowed on Honor Graduate

The University of California Medical School, Berkeley, has revived the custom of "handing down the gold-headed cane" in a special ceremony symbolizing the custom of English physicians of long ago of carrying gold-headed canes, in the hollow heads of which they carried herbs to protect themselves from disease. The medical student thus honored was Warren L. Bostick of San Diego, who was given a gold-headed cane; Warren E. Jones of Sacramento and William R. Rosanoff, Los Angeles, were given copies of the earliest edition of a book by Macmichael describing the cane ceremony and giving the history of its recipients. A new cane is to be presented next year to the honor graduate in the same manner. Dr. Herbert C. Moffitt, clinical professor emeritus, who made the presentation speeches, was also given a gold-headed cane in recognition of fifty years of service with the university. Dr. Moffitt was the honor graduate of the university in the class of 1889.

National Board Questions in Surgery and Public Health

Following are the questions used by the National Board of Medical Examiners in surgery and public health in part two of the examination held Sept. 12-14, 1938:

MEDICINE

Answer questions 1 and 2 and three of the remaining four: 1. What involvement of the nervous system is most commonly associated with pernicious anemia? What are the signs, symptoms and differential diagnostic features? 2. Contrast the physical signs of pneumothorax with those of massive collapse of the lung. 3. What are the signs and symptoms of acute morphine poisoning? Outline the treatment. 4. Discuss the etiology and describe the course of granulocytopenia. 5. Discuss the etiology and diagnosis of abscess of the liver. 6. What is the significance of albuminuria?

PUBLIC HEALTH

Answer four of the following questions: 1. Discuss the etiology, mode of transmission and methods of prevention of trichinosis. 2. What advice should be given to the mothers in a community in which an epidemic of measles is prevalent? 3. Name three virus diseases and discuss the methods of control of one of them. 4. How may a room recently occupied by a patient with scarlet fever be made safe for subsequent occupancy? 5. Name six diseases that may be treated or prevented by the administration of serums, toxins, antitoxins or vaccines. State which one of these substances would be used in each disease mentioned, and describe in detail the procedure of administration in one.

Prize for Qualifications for Successful Physician

An annual prize of $100 has been established by the Zeta chapter of Nu Sigma Nu at Northwestern University Medical School, Chicago, to be awarded on the basis of scholarship, personality and general qualifications for the making of a successful physician. The Committee of Award is composed of Dr. Irving S. Cutter, dean; Dr. Loyal Davis, professor of surgery; Dr. Andrew C. Ivy, professor of physiology and the active president of Zeta chapter of Nu Sigma Nu. In addition to the money prize, the fraternity will place a bronze tablet in the medical school library on which the names of the winners will be inscribed in chronologic order. The first award will be made to a senior of the 1939 graduating class.

Professor Urey to Succeed Professor Sherman

Harold C. Urey, Ph.D., professor of chemistry at Columbia University, New York, has been appointed executive officer of the department of chemistry for a term of three years beginning July 1. He will succeed Henry C. Sherman, Ph.D., who has been head of the department for twenty years and who will now devote his time to research and teaching. Dr. Urey was born in 1893 and received his Ph.D. degree from the University of California in 1923. He was awarded the Willard Gibbs Medal in 1934 for the discovery of "heavy water" and received the Nobel Prize in Chemistry in 1934. He is the author of numerous articles on subjects dealing with the structure of atoms and molecules. Dr. Sherman was born in Virginia in 1875 and received his Ph.D. degree in 1897 from Columbia University. He is the author of many books, the latest being "Chemistry of Food and Nutrition," published in 1937.

Graduate Course in Otolaryngology

A two weeks postgraduate course in otolaryngology at Indiana University School of Medicine, Indianapolis, in April was attended by thirty-four physicians from twenty-two states, some as far away as Maine and California. The course, said to be the only one of its kind in this country, was created mainly through the efforts of Dr. John F. Barnhill seven years ago. The chairman of the course this year was Dr. Carl H. McCaskey.

Dr. Cowie of Michigan Honored

Dr. David Murray Cowie, professor of pediatrics and infectious diseases at the University of Michigan Medical School, Ann Arbor, was honored on his sixty-sixth birthday by the members of the University of Michigan Pediatric and Infectious Disease Society who were present in Ann Arbor for their seventeenth annual meeting. A watch was presented to Dr. Cowie at a dinner given Nov. 11, 1938, by the members of the society as an expression of their appreciation for his inspiration and guidance during the many years that he has had charge of instruction in pediatrics at the university.

California's Premedical Club

Members of the faculty of the University of California Medical School lectured on personal hygiene, mental hygiene, nutrition and physiology to premedical students on the campus of the University of California, Berkeley, May 1. The talks were under the auspices of the Premedical Club.

Virginia Personal

Dr. Patrick H. Drewry Jr. has been appointed assistant professor of neuropsychiatry at the Medical College of Virginia at Richmond. He is now in London studying under a fellowship from the Rockefeller Foundation. He expects to begin his work at the college next spring when the new hospital, which will have an active psychiatric service, will have been completed.

Lectures on Social and Economic Aspects of Medicine

Western Reserve University School of Medicine, Cleveland, offered a series of lectures on the social and economic aspects of medicine, a forum discussion primarily for medical students but open to others interested. The series, presented on Tuesdays and Fridays from March 17 to May 9, was divided into three parts: "A Dynamic Society Encounters Medical Problems," "The Medical Billion and Where It Goes" and "Democracy Feels Its Way." Among the lecturers were:

Dr. Richard A. Bolt, Cleveland, Sickness and Disability as a National Problem, March 17.
Dr. Roscoe D. Leas, Cleveland, Science Advances: Adequate Medical Care Today and Yesterday, March 24.
Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, The American Medical Association Views Health Insurance, April 25.
Mr. H. van Y. Caldwell, executive secretary, Cleveland Academy of Medicine, Voluntary Prepayment Plans for Medical Care in the United States, April 28.
Dr. Ralph C. Williams, Washington, D. C., Group Medical Care for Low Income Farm Families, May 2.
Dr. Sidney M. McCurdy, Columbus, Medico-Social Aspects of Workmen's Compensation.
Charles-Edward A. Winslow, Dr.P.H., New Haven, Conn., Medical Care for the Nation.

Dr. Rogoff Appointed Professor of Endocrinology

Dr. Julius M. Rogoff, recently visiting professor of physiology in the Division of Biological Sciences, University of Chicago, has been appointed professor of endocrinology at the University of Pittsburgh School of Medicine. A special laboratory of experimental endocrinology has been established for Dr. Rogoff's research. Dr. Rogoff graduated in medicine in 1908 at Cleveland College of Physicians and Surgeons, the Medical Department of Ohio Wesleyan University, later merged into Western Reserve University. From 1913 to 1934 he was a member of the faculty of Western Reserve, joining the University of Chicago in 1935 as research associate in physiology. The new laboratory will be supported by the G. N. Stewart Memorial Fund.

Reunion of Presbyterian Hospital Interns

A reunion of former Presbyterian Hospital interns and residents in connection with a two day clinic program for Rush Medical College Alumni will be held June 12 in Chicago. Among those who will take part in the program will be Dr. Russell M. Wilder of the Mayo Clinic, Rochester, Minn.; Dr. Fred M. Smith, head of the department of theory and practice of medicine, University of Iowa, Iowa City; Dr. George M. Curtis, head of the department of research surgery, Ohio State University, Columbus, and Dr. Waltman Walters of the Mayo Clinic.

Annual Lecture at Yale

The first annual lecture for faculty and students at Yale University School of Medicine, New Haven, Conn., under the auspices of the local chapter of Nu Sigma Nu, was delivered April 28 by Dr. Perrin H. Long, associate professor of medicine at Johns Hopkins University, Baltimore, on "The Experimental and Clinical Use of Sulfanilamide, Sulfapyridine and Allied Compounds." Prior to the lecture, a banquet in honor of Dr. Long was given at the "Graduates' Club."

Medical College of Virginia

Mrs. Malcolm Perkins has given $1,000 to the college for a fellowship in immunology and Dr. Edwin D. Vaughan has been appointed to this fellowship for the current year.——Mrs. Annie R. F. Frayser recently gave $2,000 to the college in memory of her son, the late Dr. Benjamin Hobson Frayser, Lexington, Ky., to establish a medical student loan fund.——A grant to the college to provide a resident artist has been made by the Carnegie Corporation of New York. Mr. George H. Murrill has been selected and is now working on murals for the clinic and laboratory building. Murals are also being planned for the library building.

Dr. Graham Honored

A dinner was held at Riley Hospital, Indianapolis, May 8 in honor of Dr. Alois B. Graham, who will retire in June after forty years as a member of the faculty of Indiana University School of Medicine, Indianapolis. The board of trustees of the university presented a gold medal to Dr. Graham. Among the other speakers were the mayor of Indianapolis and the dean of the school of medicine. Dr. Graham is a former president of Marion County Medical Society and of the Indiana State Medical Association and a former chairman of the Section on Gastro-Enterology and Proctology of the American Medical Association.

University of Michigan Health Service

The University of Michigan Health Service celebrated its twenty-fifth completed year of work in a special program recently for which 300 invitations were issued to former staff members and to a selected list of the faculty and friends. In the evening Dr. Harold S. Diehl, dean of the division of medical sciences, University of Minnesota, gave a lecture on "Significance of the Student Health Movement." At the banquet, President Ruthven announced the final arrangements which will provide the health service with a new building designed to provide ample space for an expanded program.

Connecticut Personal

Dr. Stanhope Bayne-Jones, dean of Yale University School of Medicine, New Haven, recently was a guest of the faculty of the School of Tropical Medicine at San Juan, Puerto Rico, where he gave a lecture on "Recent Advances in Cancer Research."

Florida Personal

Dr. Leo C. Gonzales, Jacksonville, director of venereal disease control of the Florida State Board of Health, lectured before Alpha Epsilon Delta, national honorary premedical fraternity, at the University of Florida, Gainesville, recently, on "Methods to Control Venereal Disease in the United States."

Robert J. Terry Lecture

The first Robert J. Terry Lecture was delivered by Dr. Lewis H. Weed, professor of anatomy at Johns Hopkins University School of Medicine, Baltimore, May 17, at the Washington University Medical School, St. Louis. The subject of Dr. Weed's address was "Anatomy in the Medical Curriculum."

Minnesota Personal

Dr. Walter C. Alvarez of the Mayo Clinic, Rochester, Minn., gave the address at the dedication of the new $450,000 building of Hahnemann Medical College, Philadelphia, February 28. On this occasion the honorary degree of doctor of science was conferred on Dr. Alvarez.

Fellowships Awarded

Awards totaling $12,500, including traveling fellowships, scholarships and fellowships, were given to fourteen men for the coming academic year, according to an announcement from Harvard Medical School, Boston, recently.